CMT-DF1

SERVICE MANUAL

Ver. 1.2 2007.06

AEP Model
E Model
Australian Model

- CMT-DF1 is composed of following models.
  As service manuals are issued for each component model, please refer to them.

COMPONENT MODEL NAME

	CMT-DF1
DVD Deck Receiver	HCD-DF1
Speaker System	SS-CDF1

SPECIFICATIONS

Power requirements
European and Russian models: 230 V AC, 50/60 Hz
Australian model: 230 – 240 V AC, 50/60 Hz
Korean model: 220 V AC, 60 Hz
Taiwan model: 120 V AC, 50/60 Hz
Other models: 120 V, 220 V, 230 – 240 V AC, 50/60 Hz
Adjustable with voltage selector
Power consumption: 30 watts
Dimensions (w/h/d) (excl. speakers): Approx. 169 × 218 × 201 mm
Mass (excl. speakers) Approx. 2.6 kg
Supplied accessories: Remote Commander (1)
R6 (size AA) batteries (2)
AM loop antenna (1)
FM lead antenna (1)
Video cord (1)
Design and specifications are subject to change without notice.

ACCESSORIES

Part No.	Description	Remark
1-480-286-11	COMMANDER, STANDARD (RM-SDF1)	
1-751-619-13	CORD, CONNECTION (Video cord)	
1-754-102-41	ANTENNA, LOOP (LW.MW) (AM loop antenna)	
1-754-243-11	ANTENNA (FM lead antenna)	
3-272-961-11	MANUAL, INSTRUCTION (ENGLISH)	(AEP, RU, E, HK, SP, TW, AUS)
3-272-961-21	MANUAL, INSTRUCTION (FRENCH, SPANISH)	(AEP, E, SP)
3-272-961-31	MANUAL, INSTRUCTION (TRADITIONAL CHINESE)	(HK, SP, TW)
3-272-961-51	MANUAL, INSTRUCTION (KOREAN)	(KR)
3-272-961-61	MANUAL, INSTRUCTION (ARABIC)	(E)
3-272-961-71	MANUAL, INSTRUCTION (GERMAN, DUTCH)	(AEP)
3-272-961-81	MANUAL, INSTRUCTION (SWEDISH, POLISH)	(AEP)
3-272-961-91	MANUAL, INSTRUCTION (RUSSIAN)	(RU)
3-272-962-11	MANUAL, INSTRUCTION (ITALIAN)	(AEP)

- Abbreviation:
  AUS : Australian model
  HK : Hong Kong model
  KR : Korean model
  RU : Russian model
  SP : Singapore model
  TW : Taiwan model

MICRO HI-FI COMPONENT SYSTEM

9-887-490-03
2007F05-1
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Sony Corporation
Personal Audio Division
Published by Sony Techno Create Corporation

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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2006.11	New
1.1	2007.01	Addition of AEP and Russian models
1.2	2007.06	Addition of detailed content according to servicing form change (ENG-07003)

HCD-DF1

SERVICE MANUAL

Ver. 1.3 2007.10

AEP Model
E Model
Australian Model

- HCD-DF1 is the amplifier, disc player, tape deck and tuner section in CMT-DF1.

- This system incorporates Dolby[1)] Digital and DTS[2)] Digital Surround System.
  [1)] Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
  [2)] Manufactured under license from Digital Theater Systems, Inc. "DTS" and "DTS 2.0 + Digital Out" are trademarks of Digital Theater Systems, Inc.
- MPEG Layer-3 audio coding technology and patents licensed from Fraunhofer IIS and Thomson.
- DivX® is a video file compression technology, developed by developed by DivX, Inc.
  DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

DVD	Model Name Using Similar Mechanism	NEW
Section	Optical Pick-up Block Name	KHM-313AHC
Tape deck	Model Name Using Similar Mechanism	NEW
Section	Tape Transport Mechanism Type	H-21

SPECIFICATIONS

Amplifier section

European and Russian models:

DIN power output (rated): 3.6 + 3.6 watts (4 ohms at 1kHz, DIN)
Continuous RMS power output (reference): 5 + 5 watts (4 ohms at 1 kHz, 10% THD)
Music power output (reference): 8 + 8 watts (4 ohms at 1 kHz, 10% THD)

Other models:

The following measured at AC 120 V, 220 V, 240 V, 50/60 Hz
DIN power output (rated): 3.6 + 3.6 watts (4 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 5 + 5 watts (4 ohms at 1 kHz, 10% THD)

Inputs
MIC (monaural mini jack): sensitivity 1.5 mV, impedance 10 kilohms

Outputs
VIDEO OUT (phono jack): max. output level 1 Vp-p, unbalanced, Sync negative, load impedance 75 ohms
S VIDEO OUT (4-pin/mini-DIN jack): Y: 1 Vp-p, unbalanced, Sync negative, C: 0.286 Vp-p, load impedance 75 ohms
COMPONENT VIDEO OUT: Y: 1 Vp-p, 75 ohms P_B, P_R: 0.7 Vp-p, 75 ohms
DIGITAL OUT (OPTICAL) (Square optical connector jack, rear panel)
Wavelength 660 nm
PHONES (stereo mini jack): accepts headphones of 8 ohms or more
SPEAKER: accepts impedance of 4 ohms

Disc player section

System: Compact disc and digital audio and video system
Laser: Laser Diode Properties
- Emission duration: continuous
- Laser Output*: Less than 1,000 µW

* This output is the value measurement at a distance of 200mm from the objective lens surface on the Optical Pick-up Block with 7mm aperture.

Semiconductor laser (DVD: λ=650 nm, CD: λ=790 nm)

– Continued on next page –

DVD DECK RECEIVER

9-887-738-02
2007J05-1
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Audio Business Group
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Frequency response	DVD (PCM 48 kHz): 2 Hz – 22 kHz (±1 dB) CD: 2 Hz – 20 kHz (±1 dB)

Tape deck section

Recording system	4-track 2-channel stereo

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz (50 kHz step)
Antenna	FM lead antenna
Antenna terminals	75 ohms unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Canadian model:	530 – 1,710 kHz
Other models:	531 – 1,602 kHz
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
European and Russian models:	
	230 V AC, 50/60 Hz
Australian model:	230 – 240 V AC, 50/60 Hz
Korean model:	220 V AC, 60 Hz
Taiwan model:	120 V AC, 50/60 Hz
Other models:	120 V, 220 V, 230 – 240V AC, 50/60 Hz Adjustable with voltage selector
Power consumption:	30 watts
Dimensions (w/h/d) (excl. speakers):	
	Approx. 169 × 218 × 201 mm
Mass (excl. speakers)	Approx. 2.6 kg

Design and specifications are subject to change without notice.

Notes on chip component replacement

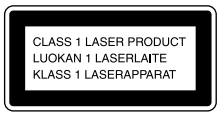
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



This appliance is classified as a CLASS 1 LASER product. This marking is located on the rear exterior.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

UNLEADED SOLDER

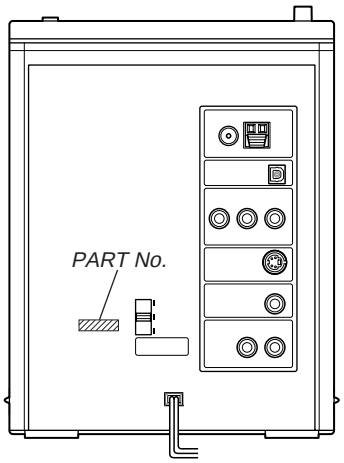
Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

MODEL IDENTIFICATION – Back Panel –



Part No.	Model
2-896-838-0□ SP2	Singapore model
2-898-848-0□ CEL	AEP model
2-898-850-0□ AU1	Australian model
2-898-852-0□ HK2	Hong Kong model
2-898-853-0□ TW2	Taiwan model
2-898-854-0□ E3	E model
3-217-804-0□ KR2	Korean model
3-268-765-0□ RU1	Russian model

Playable discs

You can play back the following discs on this system. Other discs cannot be played back.

List of playable discs

Format of discs	Disc logo
DVD VIDEOs	
DVD-RWs/ DVD-Rs	
DVD+RWs/ DVD+Rs	
VIDEO CDs	
Audio CDs	
CD-Rs/CD-RWs	

"DVD VIDEO," "DVD-R" and "DVD-RW" logos are trademarks.

Region code of DVDs you can play on this system

Your system has a region code printed on the back of the unit and will only play DVDs labeled with identical region code.

DVDs labeled will also be played on this system.

If you try to play any other DVD, the message "Wrong Region" will appear on the TV screen. Depending on the DVD, no region code indication may be labeled even though playing the DVD is prohibited by area restrictions.

Discs that this system cannot play

- CD-ROMs (except for extension ".MP3", ".JPG" or ".JPEG")
- CD-Rs/CD-RWs other than those recorded in the following formats:
  - music CD format
  - video CD format
  - MP3 (MPEG1 Audio Layer-3)/JPEG/DivX format that conforms to ISO9660*Level 1/ Level 2 or Joliet
- CD-ROMs recorded in PHOTO CD format.
- Data part of CD-Extras
- Super Audio CDs
- DVD-ROMs/DVD-Rs/DVD-RWs/DVD+Rs/ DVD+RWs other than those recorded in DivX format conforming to Universal Disk Format (UDF).
- DVD-ROMs/DVD-Rs/DVD-RWs/DVD+Rs/ DVD+RWs recorded in Multi Session
- DVD-RAMs
- DVD Audio discs
- A DVD with a different region code.
- DVD+R DL (Double layer) discs
- DVD+Rs/DVD+RWs recorded in VR (Video Recording) mode
- Photo-movies created after shooting on a DVD camcorder in VR (Video Recording format) mode
- Discs with non-standard shapes (e.g., heart, square, star) cannot be played on this unit. Attempting to do so may damage the unit. Do not use such discs.
- A disc with paper or stickers on it.
- A disc that has the adhesive, cellophane tape, or a sticker still left on it.

* A logical format of files and folders on a CD-ROMs, defined by ISO (International Organization for standardization).

Notes about CD-R/CD-RW/ DVD-R/DVD-RW (Video mode)/ DVD+R/DVD+RW

- In some cases, CD-Rs, CD-RWs, DVD-Rs, DVD-RWs (Video mode) (DVD-RWs created in video mode have the same format as a DVD VIDEO), DVD+R or DVD+RW cannot be played on this system depending upon the recording quality or physical condition of the disc, or the characteristics of the recording device. Furthermore, the disc will not play if it has not been correctly finalized. For more information, see the operating instructions for the recording device. Note that some playback functions may not work with some DVD+RWs/ DVD+Rs, even if they have been correctly finalized.
- A disc recorded in packet write format cannot be played.

Note on playback operations of DVDs and VIDEO CDs

Some playback operations of DVDs and VIDEO CDs may be intentionally set by software producers. Since this system plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also, refer to the instructions supplied with the DVDs or VIDEO CDs.

Music discs encoded with copyright protection technologies

This product is designed to playback discs that conform to the Compact Disc (CD) standard. Recently, various music discs encoded with copyright protection technologies are marketed by some record companies. Please be aware that among those discs, there are some that do not conform to the CD standard and may not be playable by this product.

Note on DualDiscs

A DualDisc is a two sided disc product which mates DVD recorded material on one side with digital audio material on the other side. However, since the audio material side does not conform to the Compact Disc (CD) standard, playback on this product is not guaranteed.

Cautions when playing a disc that is recorded in Multi Session

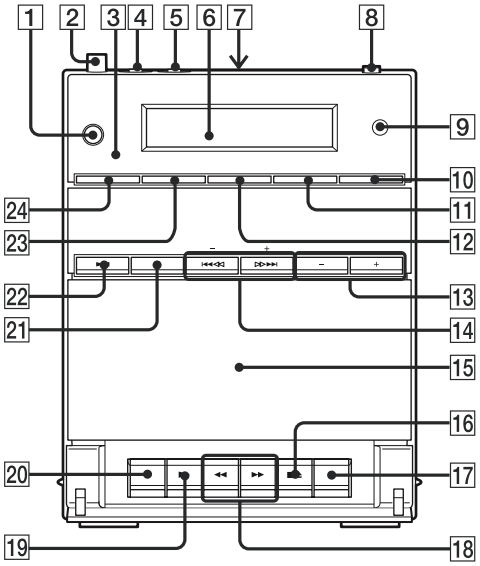
- This system can play Multi Session CDs when an MP3 file (JPEG file) is contained in the first session. Any subsequent MP3 files (JPEG files) recorded in later sessions can also be played back.
- If audio tracks and images in music CD format or video CD format are recorded in the first session, only the first session will be played back.
- When playing a disc which contains audio tracks in music CD format, MP3 files and JPEG files, only the audio tracks in music CD format can be played back.
- CD-R and CD-RW discs recorded in multi-session that have not ended by "closing the session" are not supported.
- With CD-ROMs/CD-Rs/CD-RWs that contain DivX files in addition to MP3 files or JPEG files, the system plays only the DivX files.

SECTION 2
GENERAL

This section is extracted from instruction manual.

LOCATION OF CONTROLS

Main unit



ALPHABETICAL ORDER

A – O

Cassette compartment 15
Disc compartment 7
DISPLAY 12
Display window 6
DSGX 10
FUNCTION 24
MIC jack 4
MICLEVEL 2

P – Z

PHONES jack 5
POWER (on/off) 1
PROGRESSIVE 11
Remote sensor 9
STANDBY indicator 3
TUNER/BAND 23
TUNING +/– 14
VOLUME +/– 13

BUTTON DESCRIPTIONS

Disc operation buttons

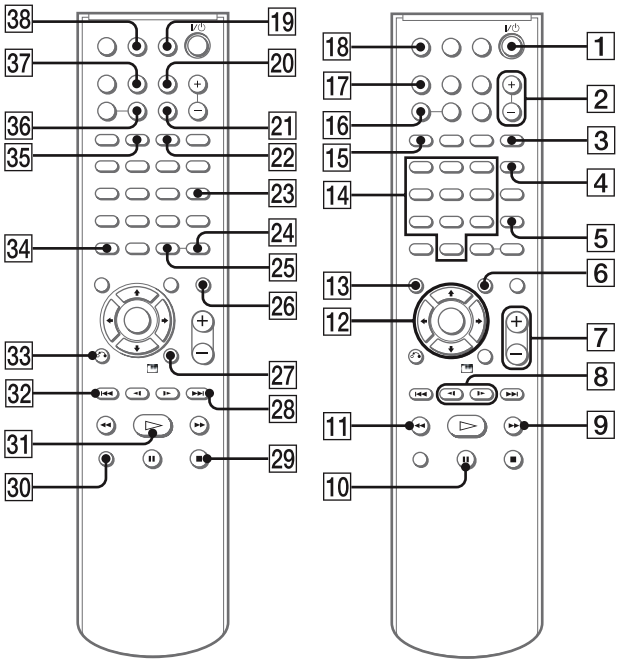
⏏ OPEN 8
◀◀/▶▶ (rewind/fast forward) 14
⏮/⏭ (go back/forward) 14
■ (stop) 21
►II (play/pause) 22

Tape operation button

■⏏ (stop/eject) 16
II (pause) 17
◀◀/▶▶ (rewind/fast forward) 18
► (play) 19
● (record)* 20

* You cannot press ● alone. When you press this button, ► is also pressed.

Remote control



ALPHABETICAL ORDER

A – R

ANGLE 5
AUDIO 4
CLEAR 34
DSGX 24
DVD 36
ENTER 12 25
FM MODE 35
FUNCTION +/– 2
MENU/PBC 6
MUTING 26
Number buttons* 14
PAL/NTSC 38
PRESET + 28
PRESET – 32
RANDOM 17
REPEAT 15

S – Z

SEARCH 3
SETUP 20
SUBTITLE 23
TAPE 16
THEATRE SYNC 19
TOP MENU 13
TUNER/BAND 21
TUNER MEMORY 22
TUNING + 9
TUNING – 11
TV 30
TV CH + 28
TV CH – 32
TV/VIDEO 18
TV VOL +/–* 7
VOLUME +/–* 7
ZOOM 37

BUTTON DESCRIPTIONS

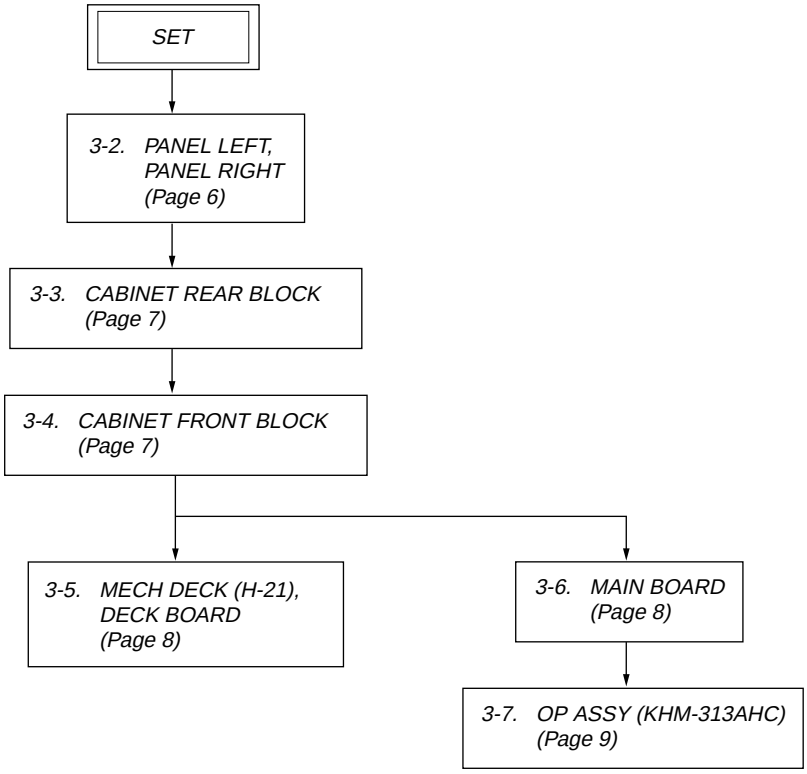
I/⏻ (on/standby) 1
TV I/⏻ 1
◄I SLOW/SLOW I► 8
▶▶ (fast forward) 9
II (pause) 10
◀◀ (rewind) 11
↑/↓/←/→ 12
DISPLAY 27
▶▶I (go forward) 28
■ (stop) 29
▷ (play)* 31
I◀◀ (go back) 32
RETURN 33
-/-- 34

* The ▷, number 5 and VOLUME + (TV VOL +) buttons have tactile dots. Use the tactile dots as references when operating the system.

SECTION 3
DISASSEMBLY

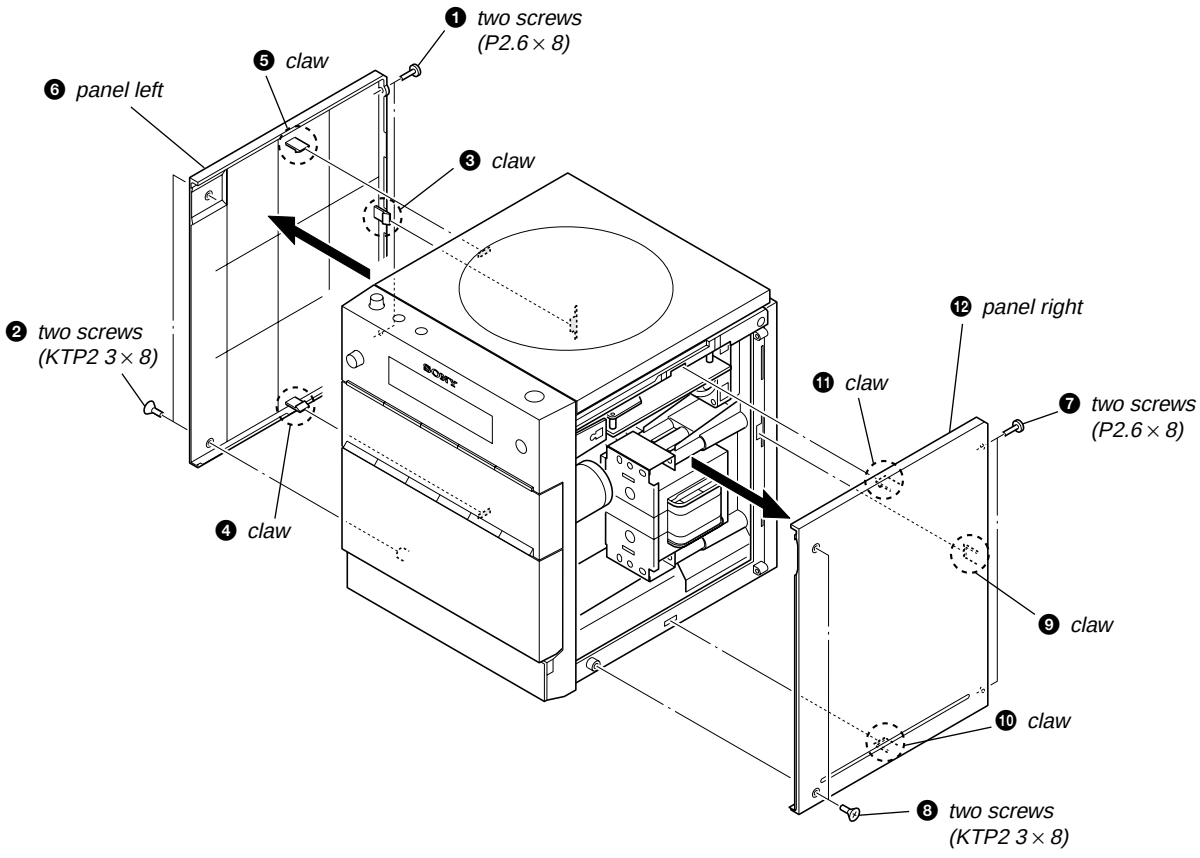
- This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

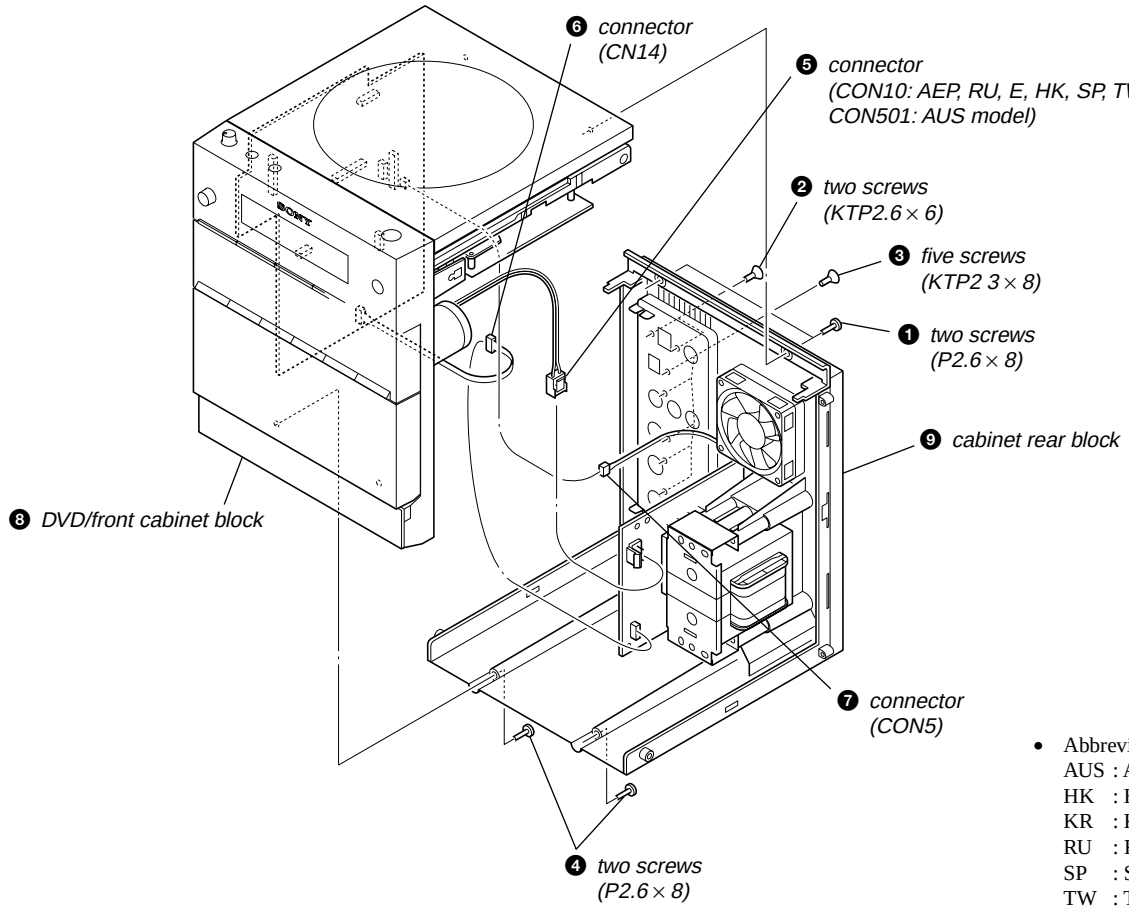

SET
3-2. PANEL LEFT, PANEL RIGHT (Page 6)
3-3. CABINET REAR BLOCK (Page 7)
3-4. CABINET FRONT BLOCK (Page 7)
3-5. MECH DECK (H-21), DECK BOARD (Page 8)
3-6. MAIN BOARD (Page 8)
3-7. OP ASSY (KHM-313AHC) (Page 9)

Note: Follow the disassembly procedure in the numerical order given.

3-2. PANEL LEFT, PANEL RIGHT

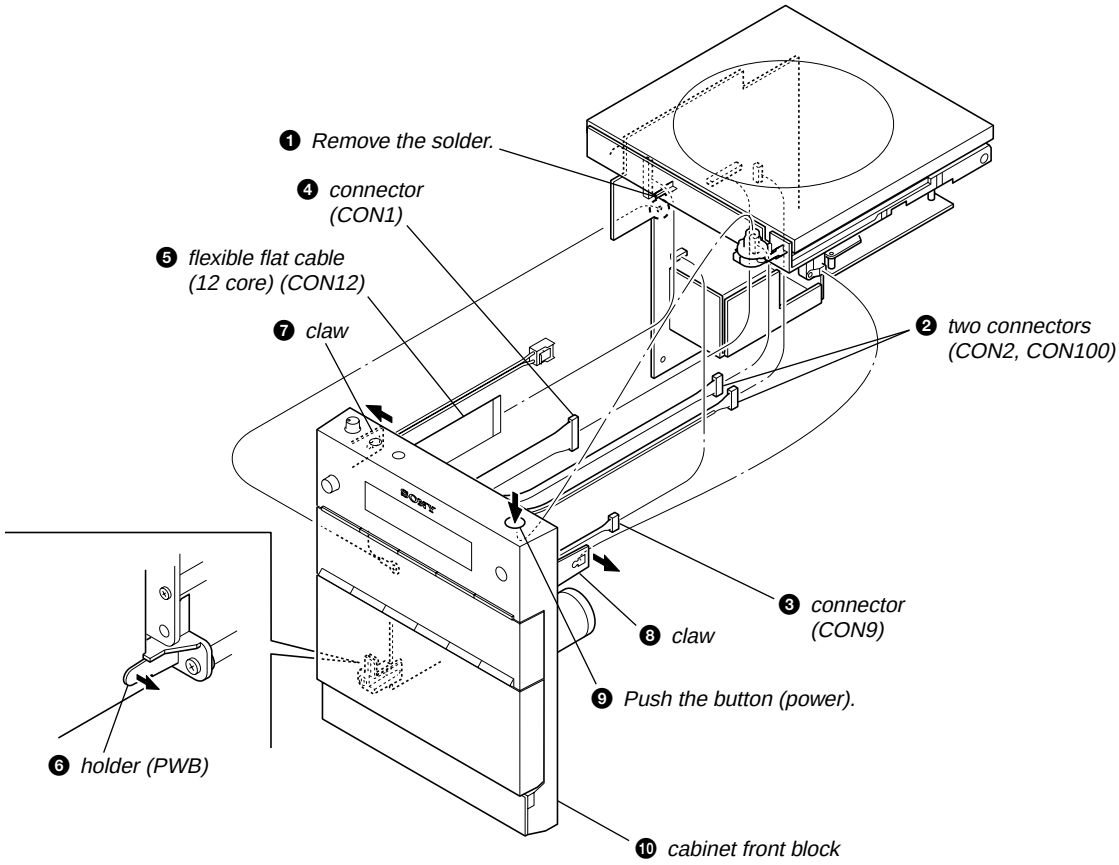


3-3. CABINET REAR BLOCK

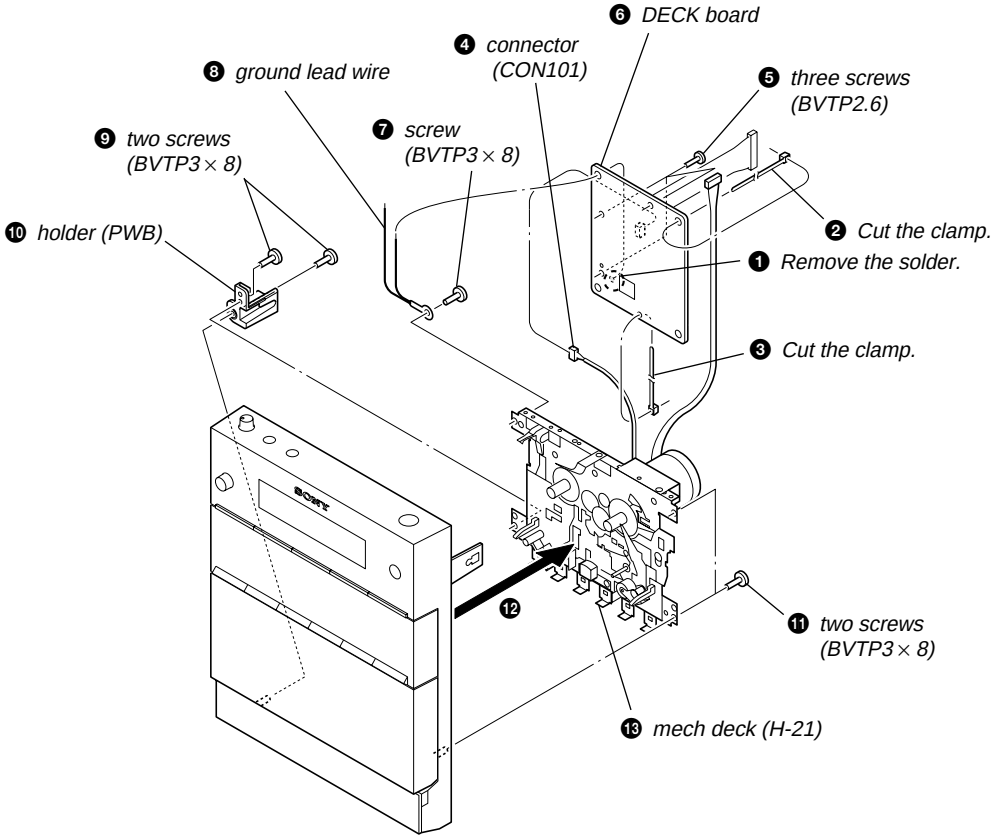

❻ connector (CN14)
❺ connector (CON10: AEP, RU, E, HK, SP, TW and KR models, CON501: AUS model)
❷ two screws (KTP2.6 × 6)
❸ five screws (KTP2 3 × 8)
❶ two screws (P2.6 × 8)
❾ cabinet rear block
❽ DVD/front cabinet block
❼ connector (CON5)
❹ two screws (P2.6 × 8)

- Abbreviation
  AUS : Australian model
  HK : Hong Kong model
  KR : Korean model
  RU : Russian model
  SP : Singapore model
  TW : Taiwan model

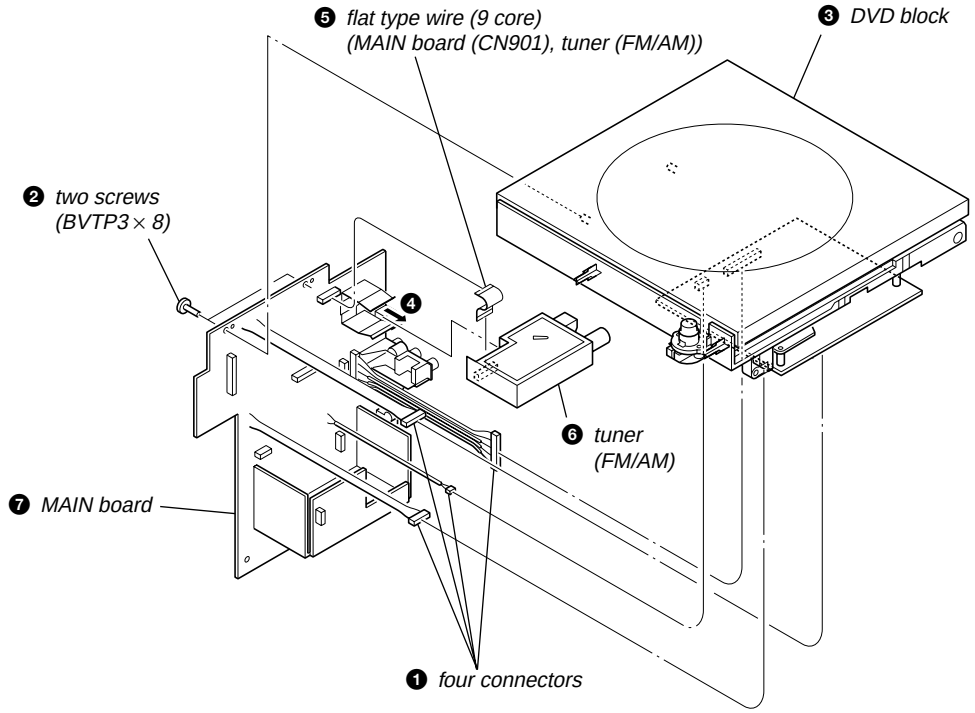
3-4. CABINET FRONT BLOCK



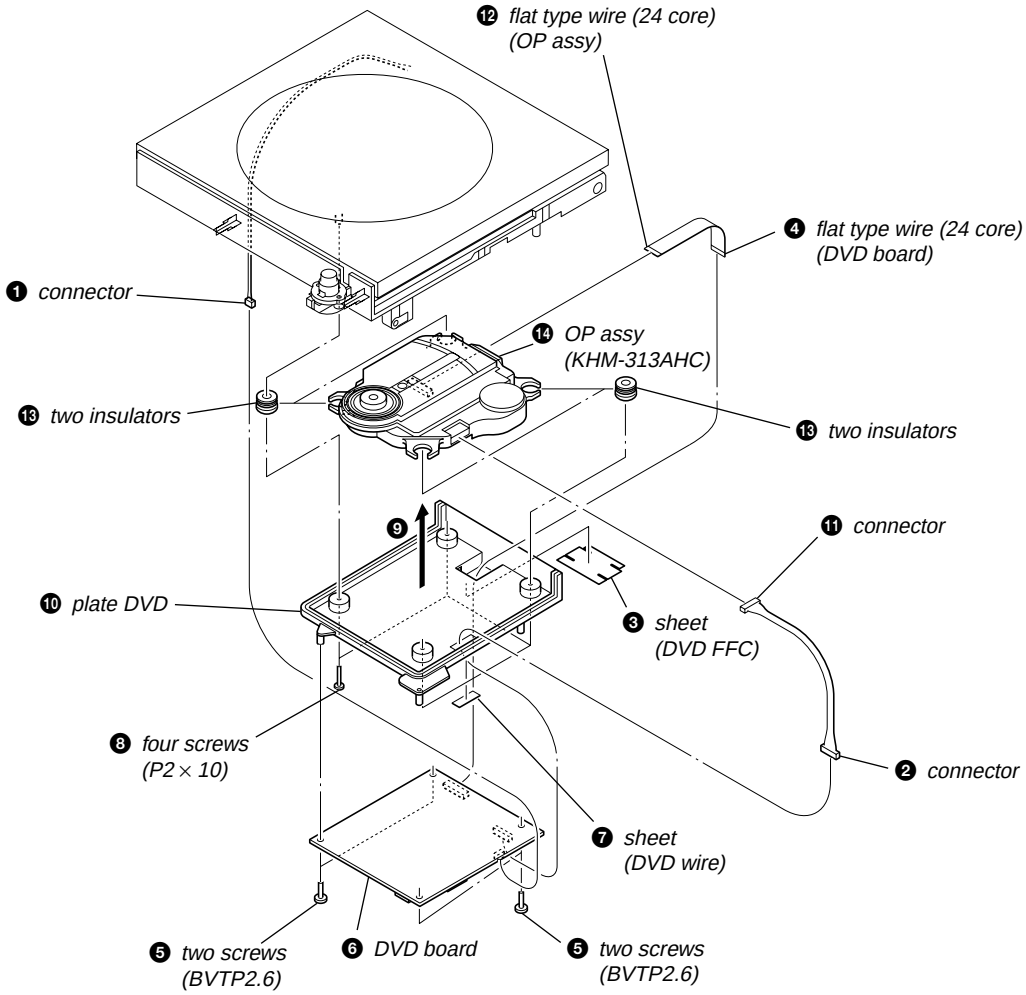
3-5. MECH DECK (H-21), DECK BOARD



3-6. MAIN BOARD


❺ flat type wire (9 core) (MAIN board (CN901), tuner (FM/AM))
❸ DVD block
❷ two screws (BVTP3 × 8)
❹
❻ tuner (FM/AM)
❼ MAIN board
❶ four connectors

3-7. OP ASSY (KHM-313AHC)



SECTION 4
TEST MODE

INITIAL MODE SETTING

Procedure:

1. Press three buttons of [VOLUME +], [DISPLAY] and [I/⏻] simultaneously.
2. The system is initialized and turn the power on.
   (The function becomes tuner mode and the volume become 16)

SECTION 5
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, appiy suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

TORQUE MEASUREMENT

Mode	Torque Meter	Meter Reading
FWD	CQ-102AS	2.0 – 8.0 mN·m (20 – 80 g·cm) (0.28 – 1.12 oz·inch)
FWD Back Tension	CQ-102C	0.15 – 0.6 mN·m (1.5 – 6.0 g·cm) (0.021 – 0.083 oz·inch)
FF	CQ-201AS	5.0 – 17.7 mN·m (50 – 177 g·cm) (0.7 – 2.48 oz·inch)
REW	CQ-201B	5.0 – 17.7 mN·m (50 – 177 g·cm) (0.7 – 2.48 oz·inch)

TAPE TENSION MEASUREMENT

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 80 g (more than 2.82 oz)

SECTION 6
ELECTRICAL ADJUSTMENT

DECK SECTION | 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.

TEST TAPE

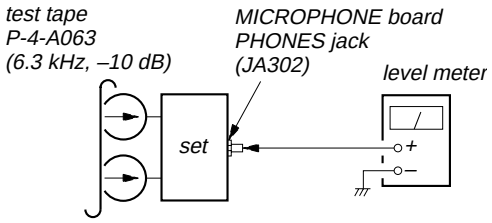
Tape	Signal	Used for
P-4-A063	6.3 kHz, -10 dB	Azimuth Adjustment

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

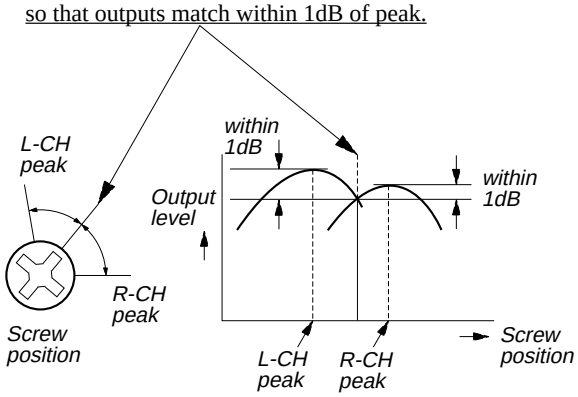
Note: Remove the sheet (azimuth) before this adjustment.
After the end of adjustment, try to paste sheet (azimuth) peeled off to be the same position.

Procedure:

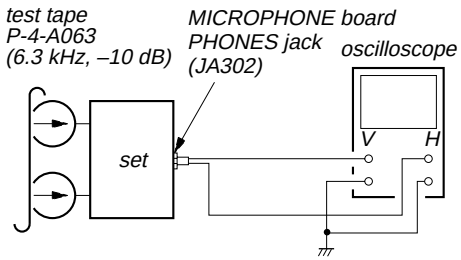
1. Mode: Playback

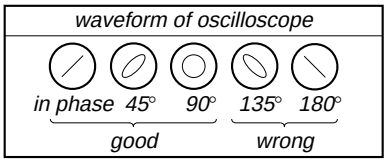


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



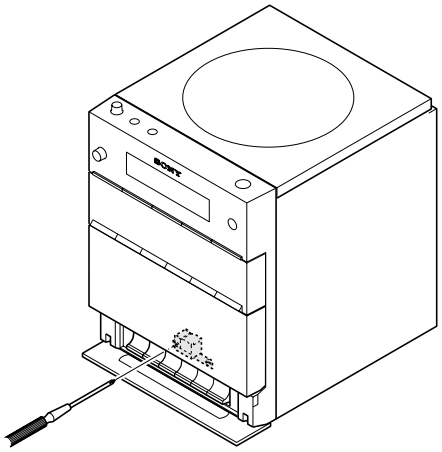
3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the pats adjusted.

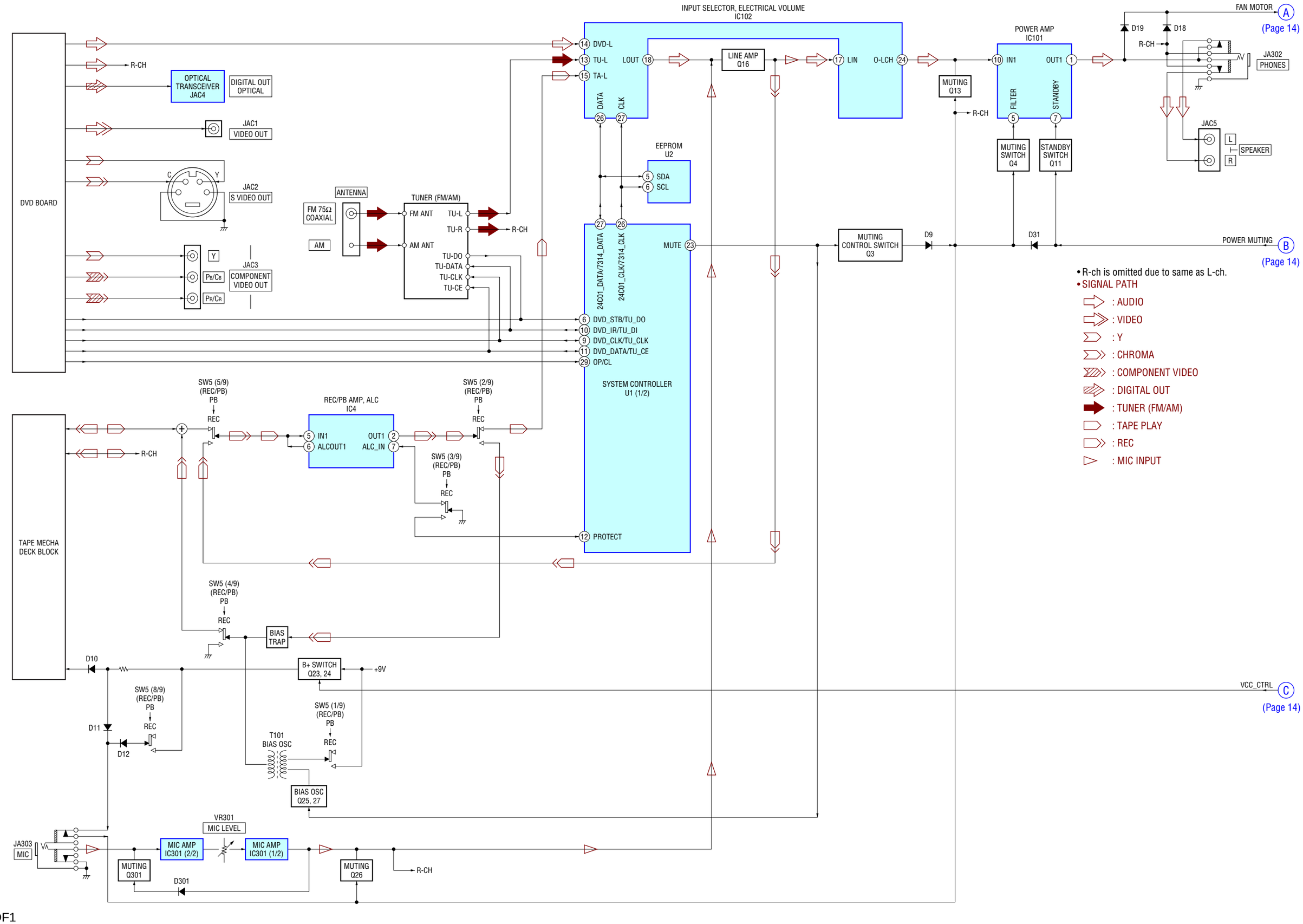
Adjustment Location: Record/Playback/Erase Head



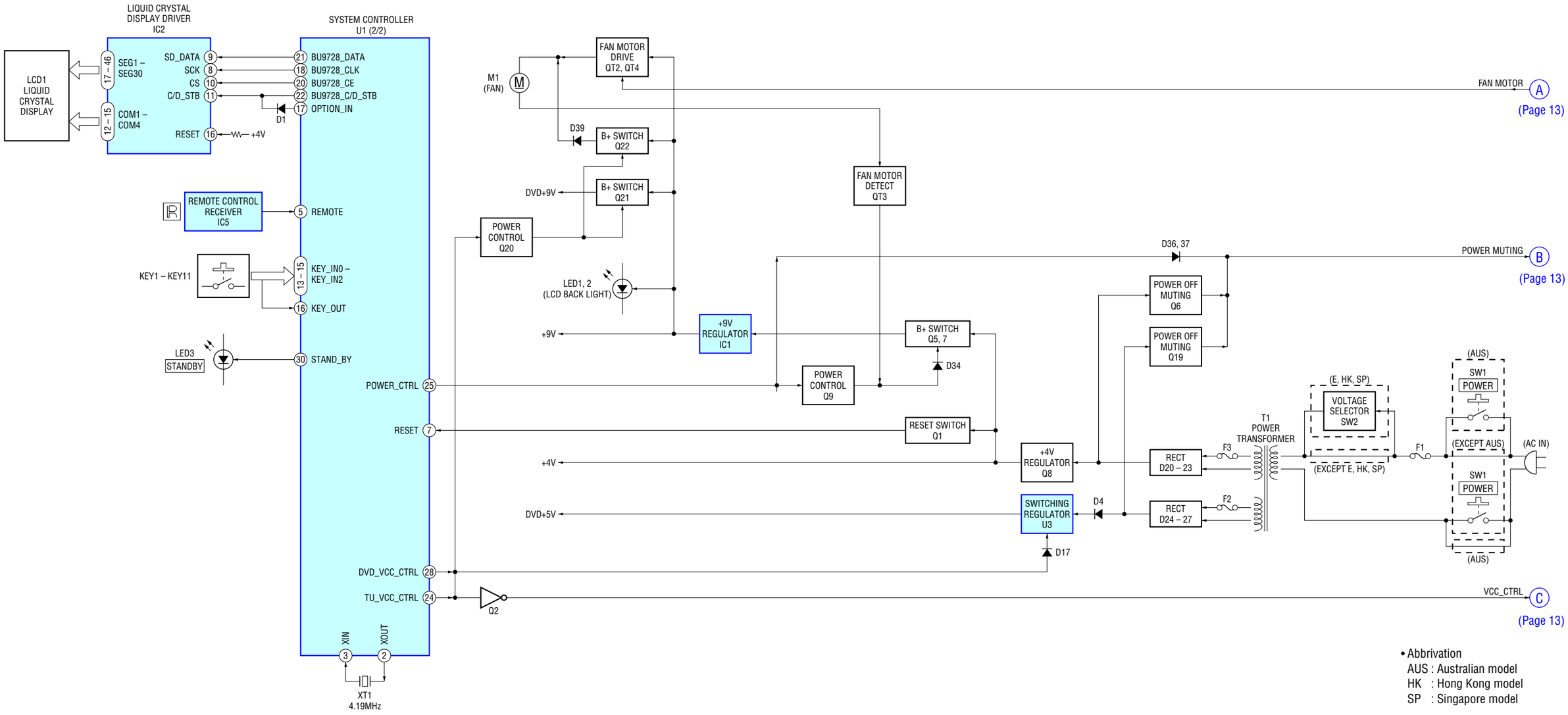
MEMO

SECTION 7
DIAGRAMS

7-1. BLOCK DIAGRAM – MAIN Section –



7-2. BLOCK DIAGRAM – PANEL/POWER SUPPLY Section –



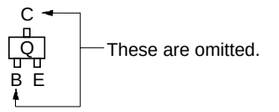
• Note for Printed Wiring Boards and Schematic Diagrams

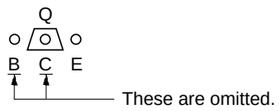
Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

- Indication of transistor





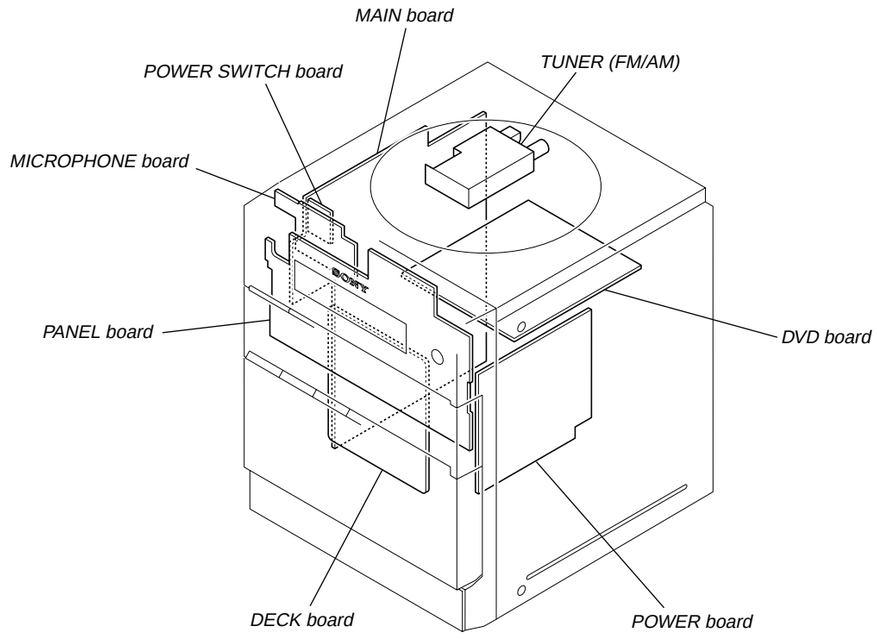
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : TUNER (FM/AM)
  - ( ) : DVD PLAY
  - [ ] : TAPE PLAY
  - ⟨⟨ ⟩⟩ : REC
  - * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : AUDIO
  - : VIDEO
  - : Y
  - : CHROMA
  - : COMPONENT VIDEO
  - : DIGITAL OUT
  - : TUNER (FM/AM)
  - : TAPE PLAY
  - : REC
  - : MIC INPUT
- Abbreviation
  - AUS : Australian model
  - HK : Hong Kong model
  - KR : Korean model
  - RU : Russian model
  - SP : Singapore model
  - TW : Taiwan model

• Circuit Boards Location



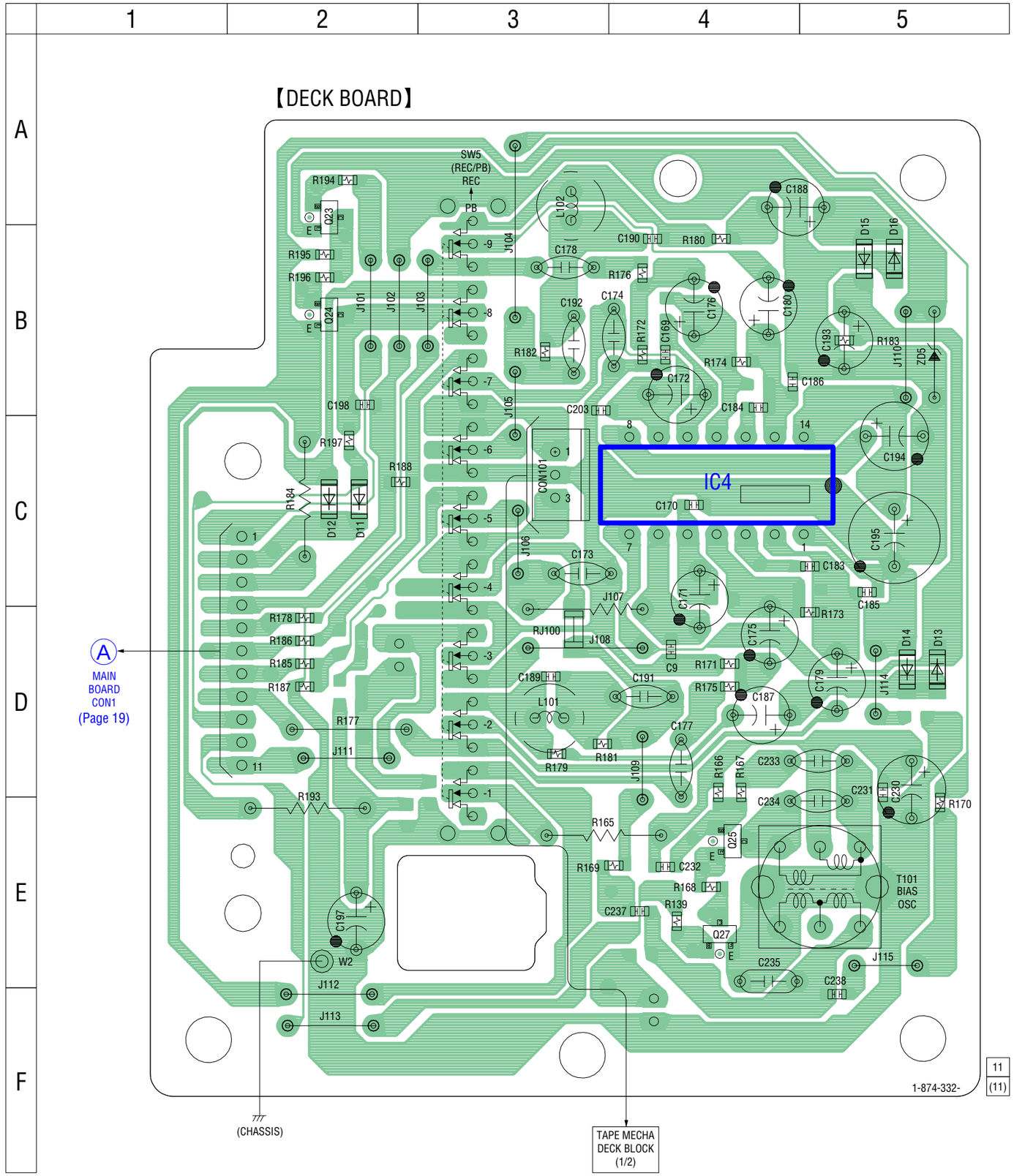
7-3. PRINTED WIRING BOARD – DECK Board –

• See page 15 for Circuit Boards Location.

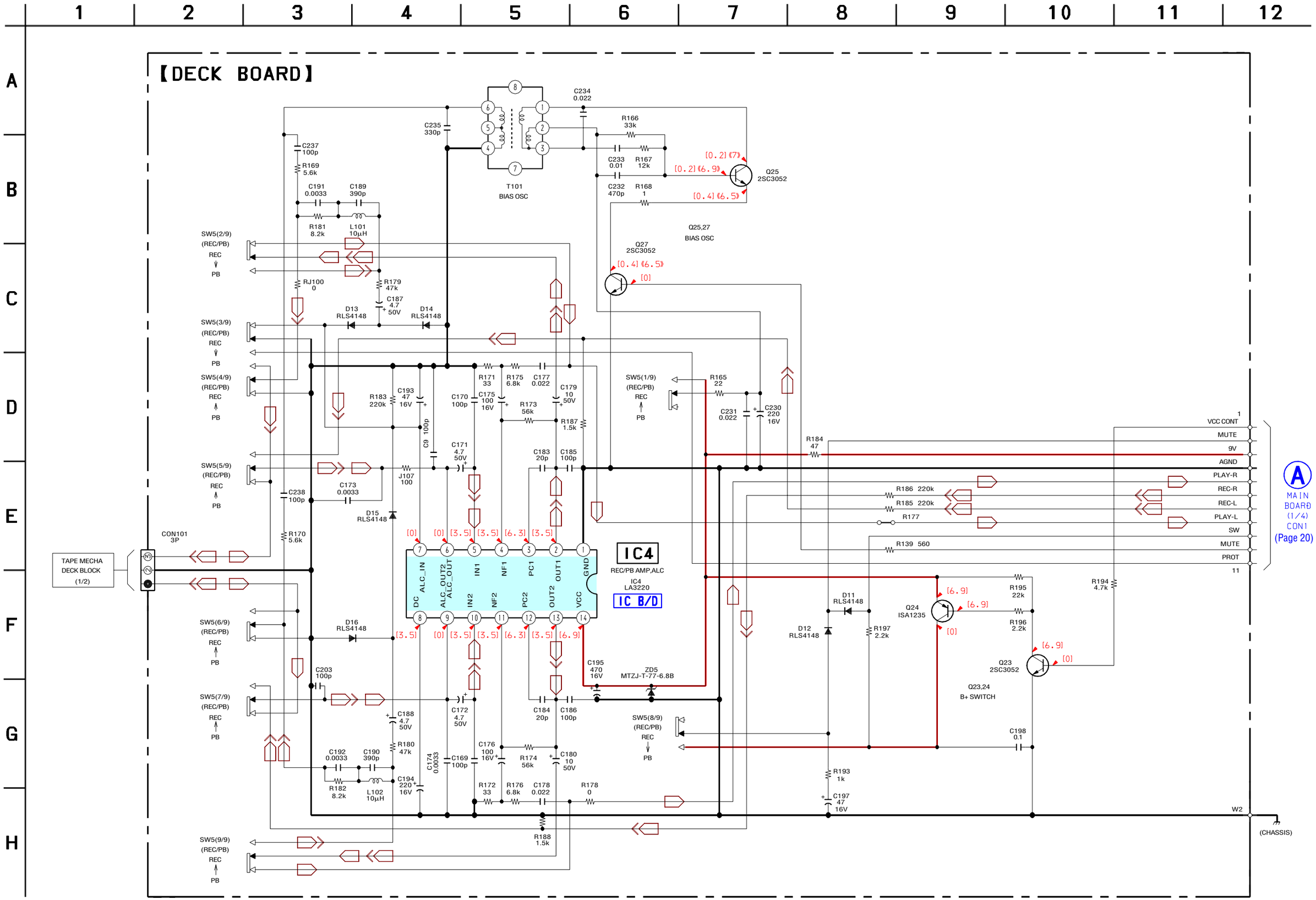
: Uses unleaded solder.

• **Semiconductor Location**

Ref. No.	Location
D11	C-2
D12	C-2
D13	D-5
D14	D-5
D15	B-5
D16	B-5
IC4	C-4
Q23	A-2
Q24	B-2
Q25	E-4
Q27	E-4
ZD5	B-5

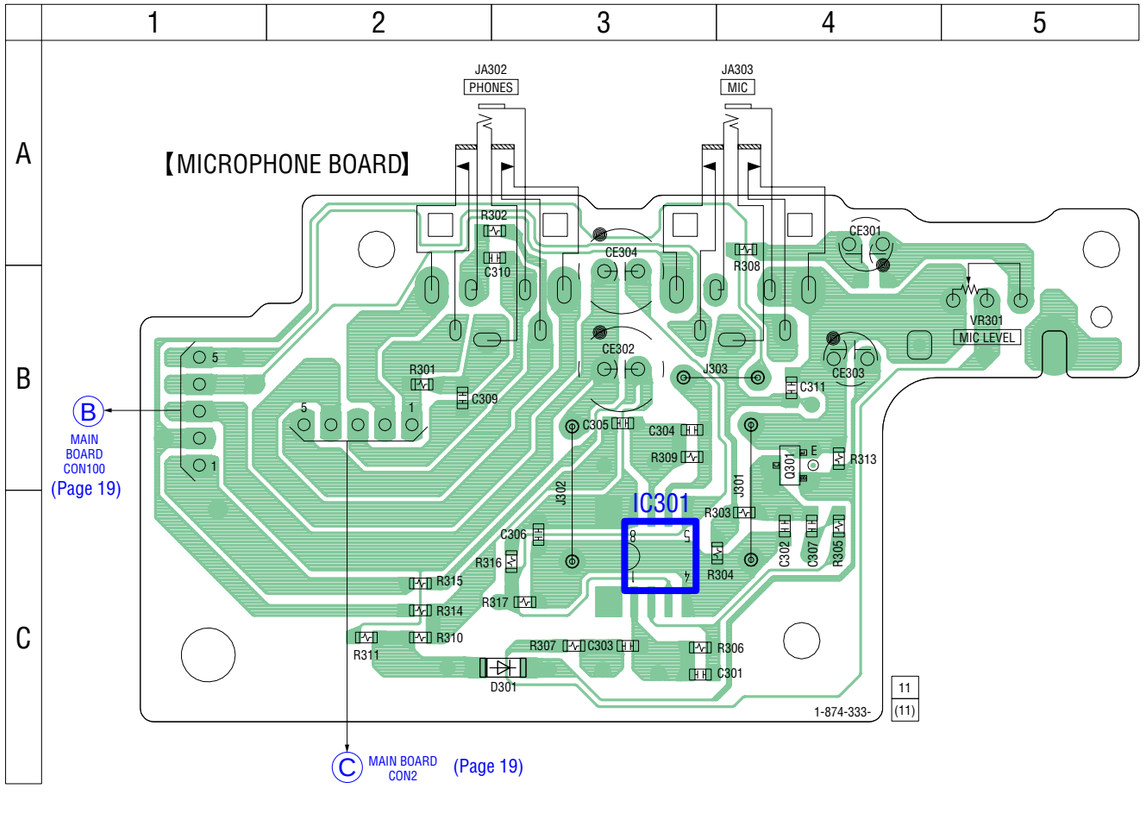


7-4. SCHEMATIC DIAGRAM – DECK Board – • See page 28 for IC Block Diagrams.

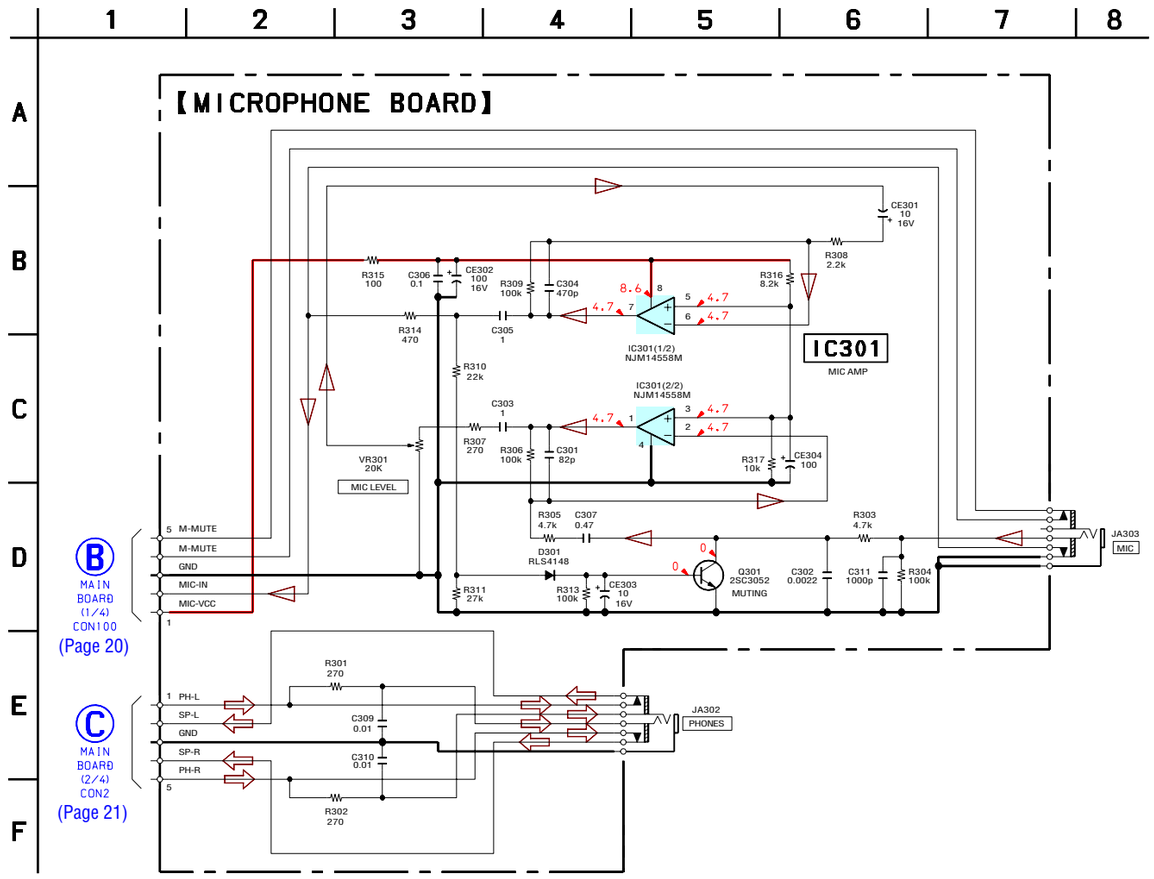


7-5. PRINTED WIRING BOARD – MICROPHONE Board –

• See page 15 for Circuit Boards Location. : Uses unleaded solder.

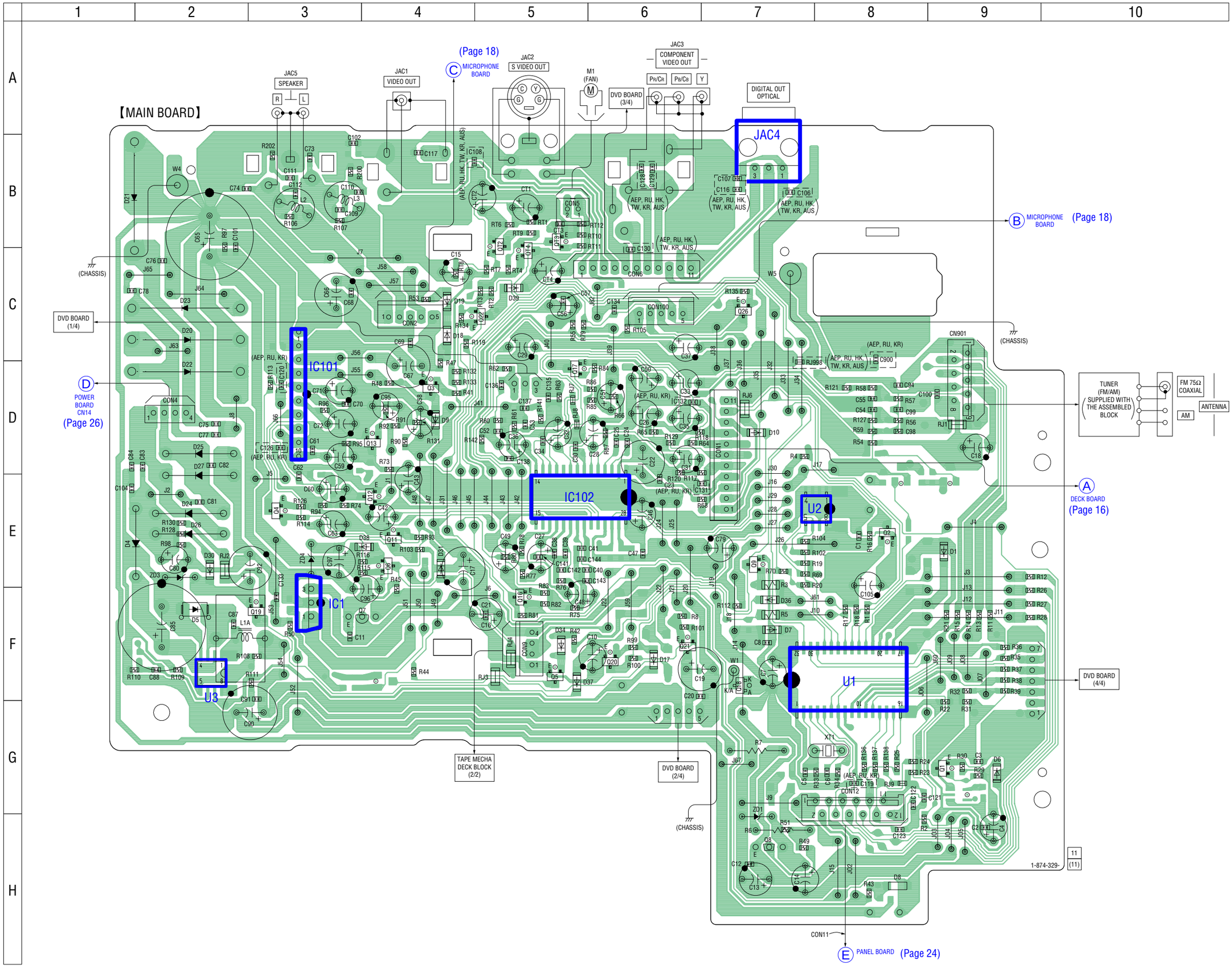


7-6. SCHEMATIC DIAGRAM – MICROPHONE Board –



7-7. PRINTED WIRING BOARD – MAIN Board –

• See page 15 for Circuit Boards Location. : Uses unleaded solder.

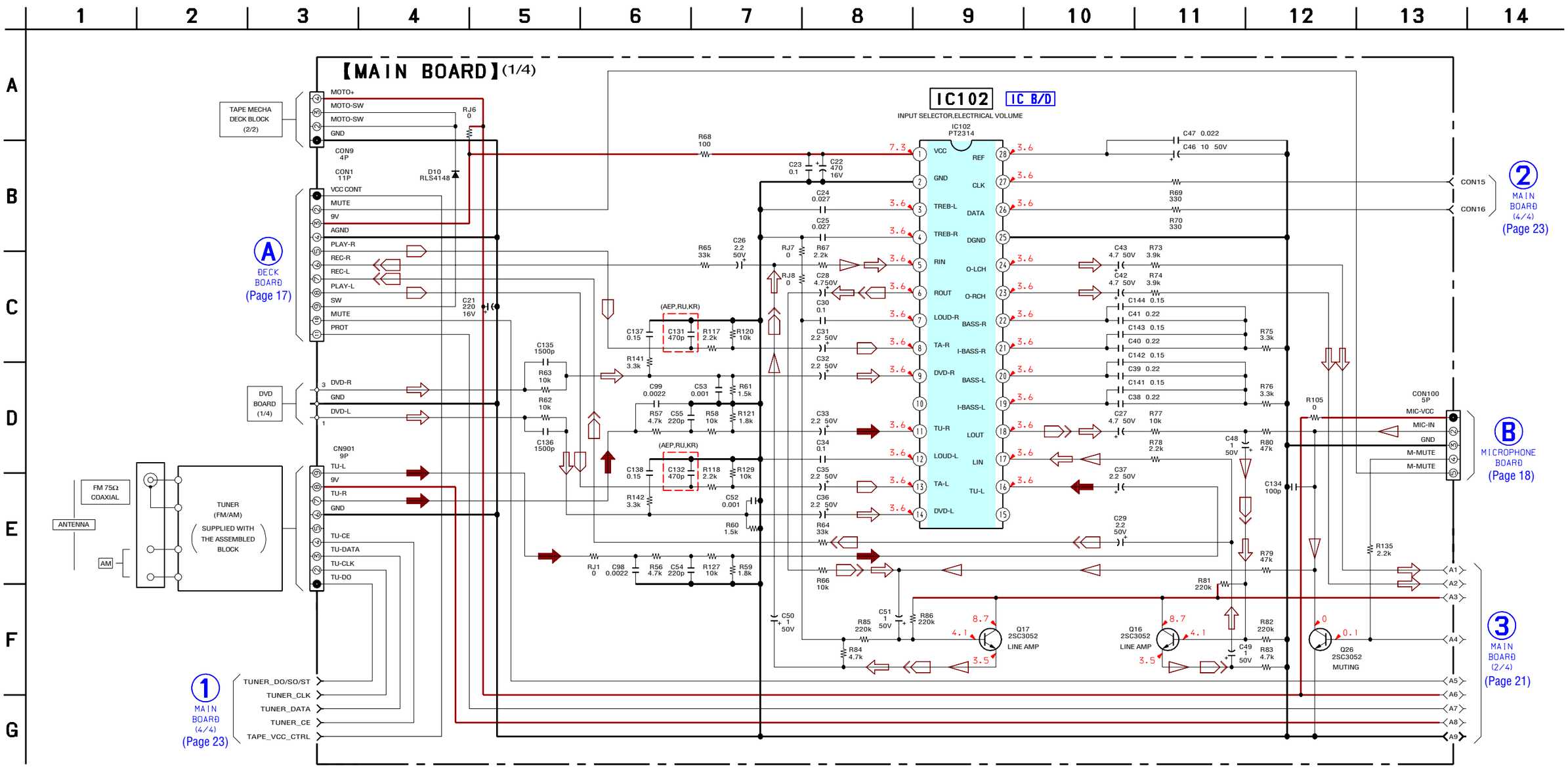


• **Semiconductor Location**

Ref. No.	Location
D1	E-9
D4	E-2
D5	F-2
D6	G-9
D7	F-7
D9	D-4
D10	D-7
D17	F-6
D18	C-4
D19	C-4
D20	C-2
D21	B-2
D22	D-2
D23	C-2
D24	E-2
D25	D-2
D26	E-2
D27	E-2
D30	E-2
D31	E-4
D34	F-5
D36	F-7
D37	F-5
D38	E-4
D39	C-5
IC1	F-3
IC101	D-3
IC102	E-5
JAC4	B-7
Q1	G-9
Q2	E-8
Q3	D-4
Q4	E-3
Q5	F-5
Q6	E-4
Q7	F-4
Q8	H-7
Q9	E-7
Q11	E-4
Q12	E-4
Q13	D-4
Q16	F-5
Q17	D-5
Q18	F-7
Q19	F-3
Q20	F-6
Q21	F-6
Q22	C-5
Q26	C-7
QT2	B-5
QT3	B-5
QT4	C-5
U1	F-8
U2	E-8
U3	F-2
ZD1	H-7
ZD3	E-2
ZD4	E-3

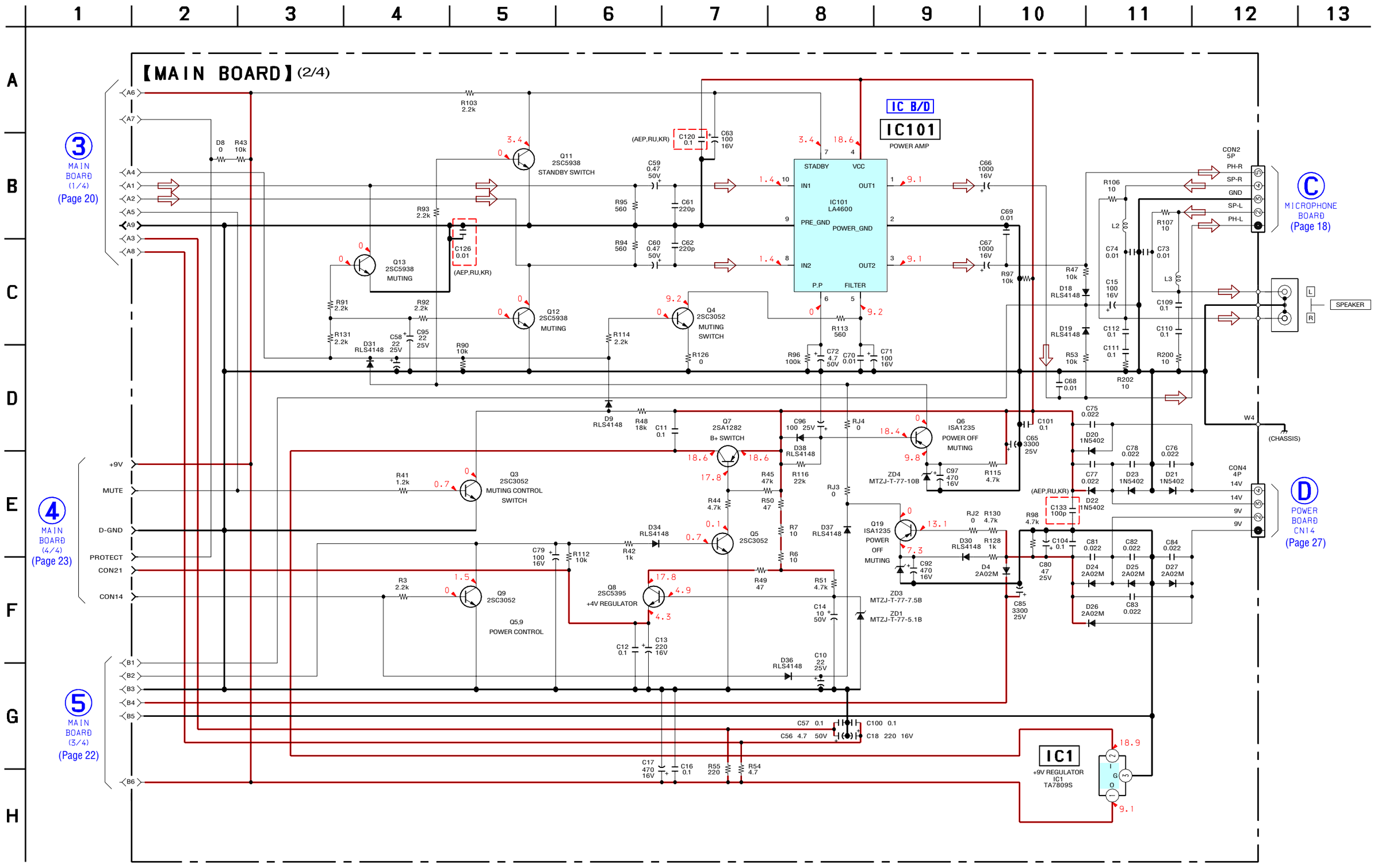
7-8. SCHEMATIC DIAGRAM – MAIN Board (1/4) –

• See page 28 for IC Block Diagrams.



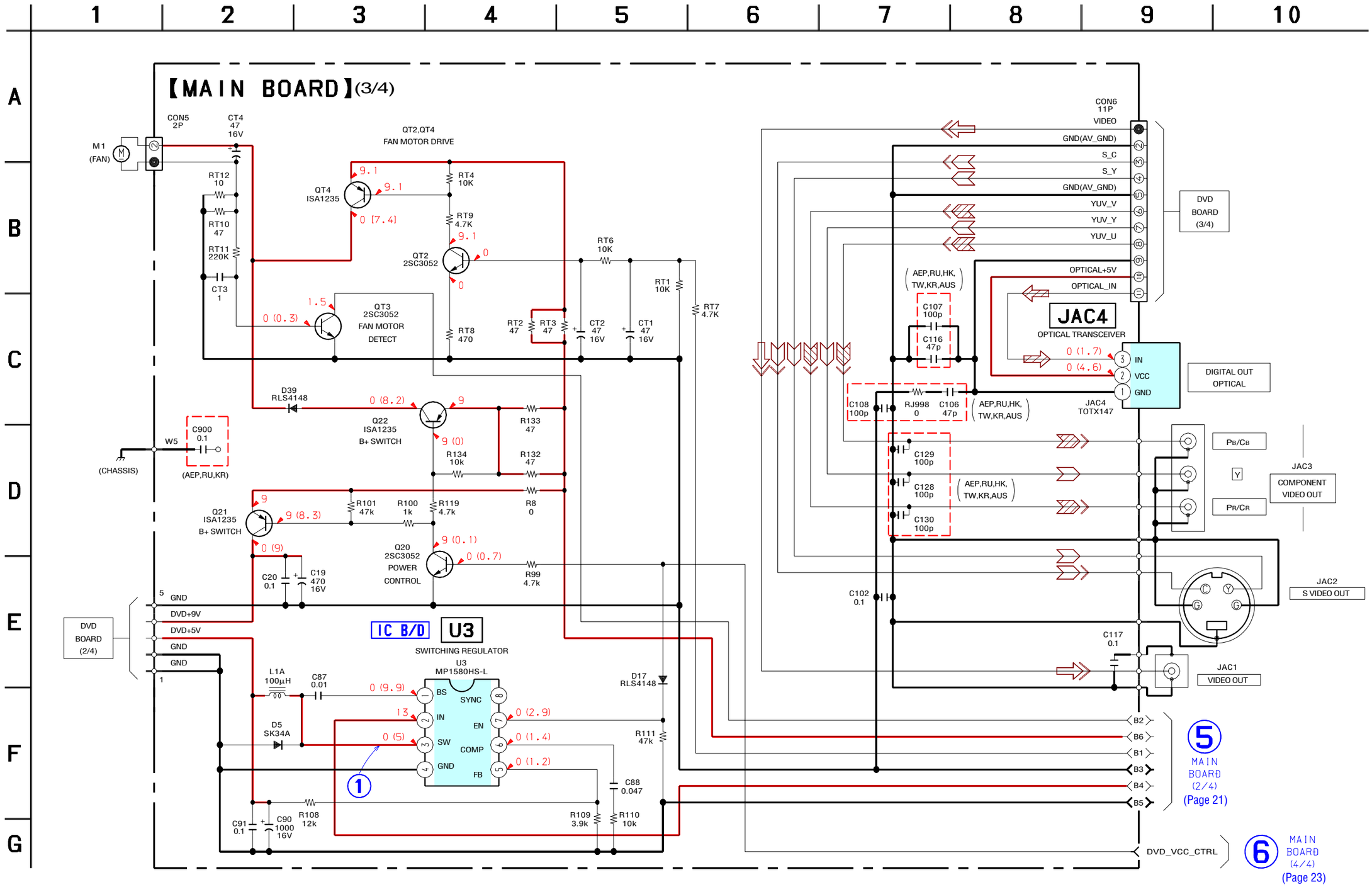
7-9. SCHEMATIC DIAGRAM – MAIN Board (2/4) –

• See page 28 for IC Block Diagrams.

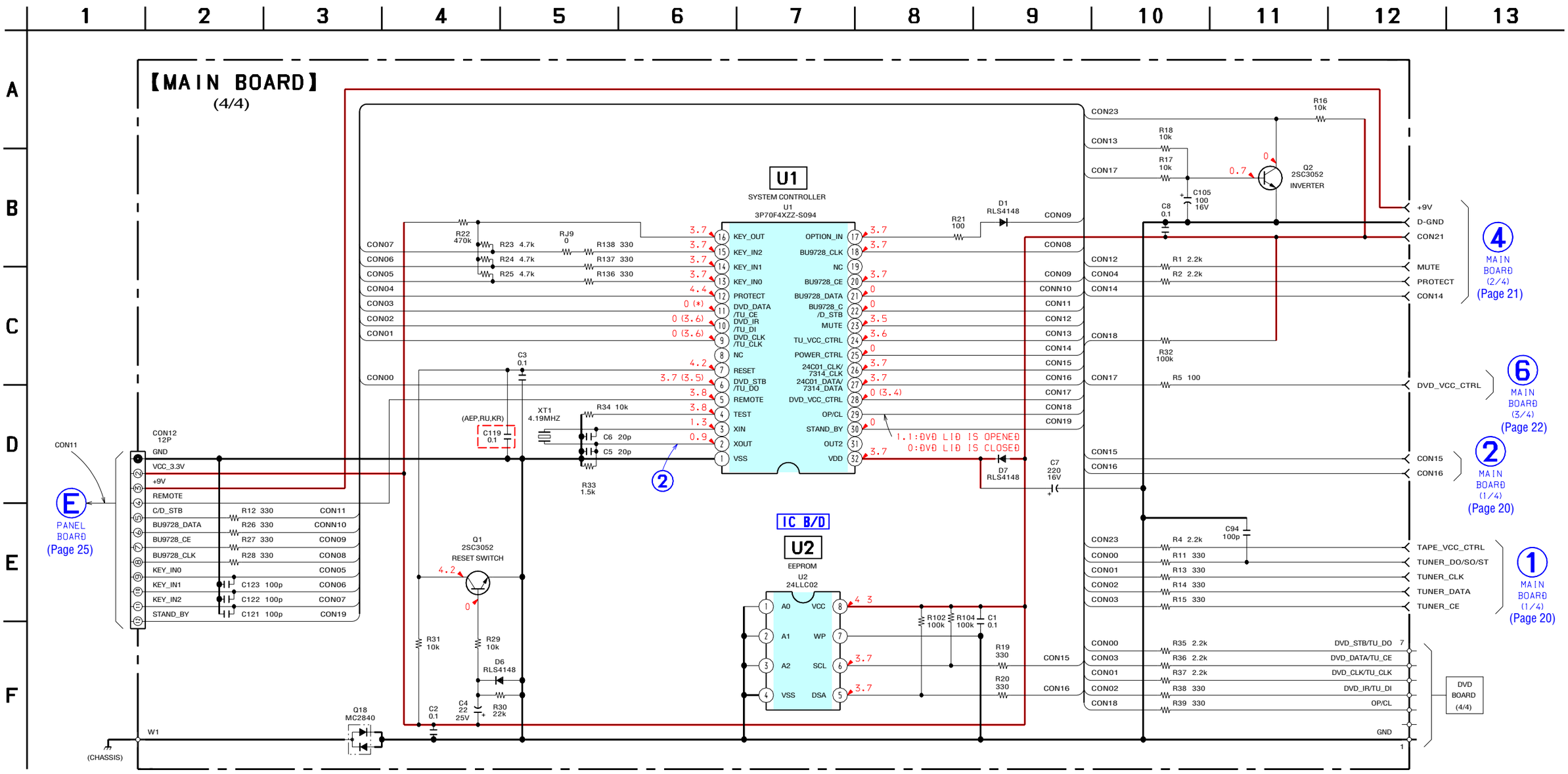


7-10. SCHEMATIC DIAGRAM – MAIN Board (3/4) –

• See page 28 for Waveforms. • See page 28 for IC Block Diagrams.

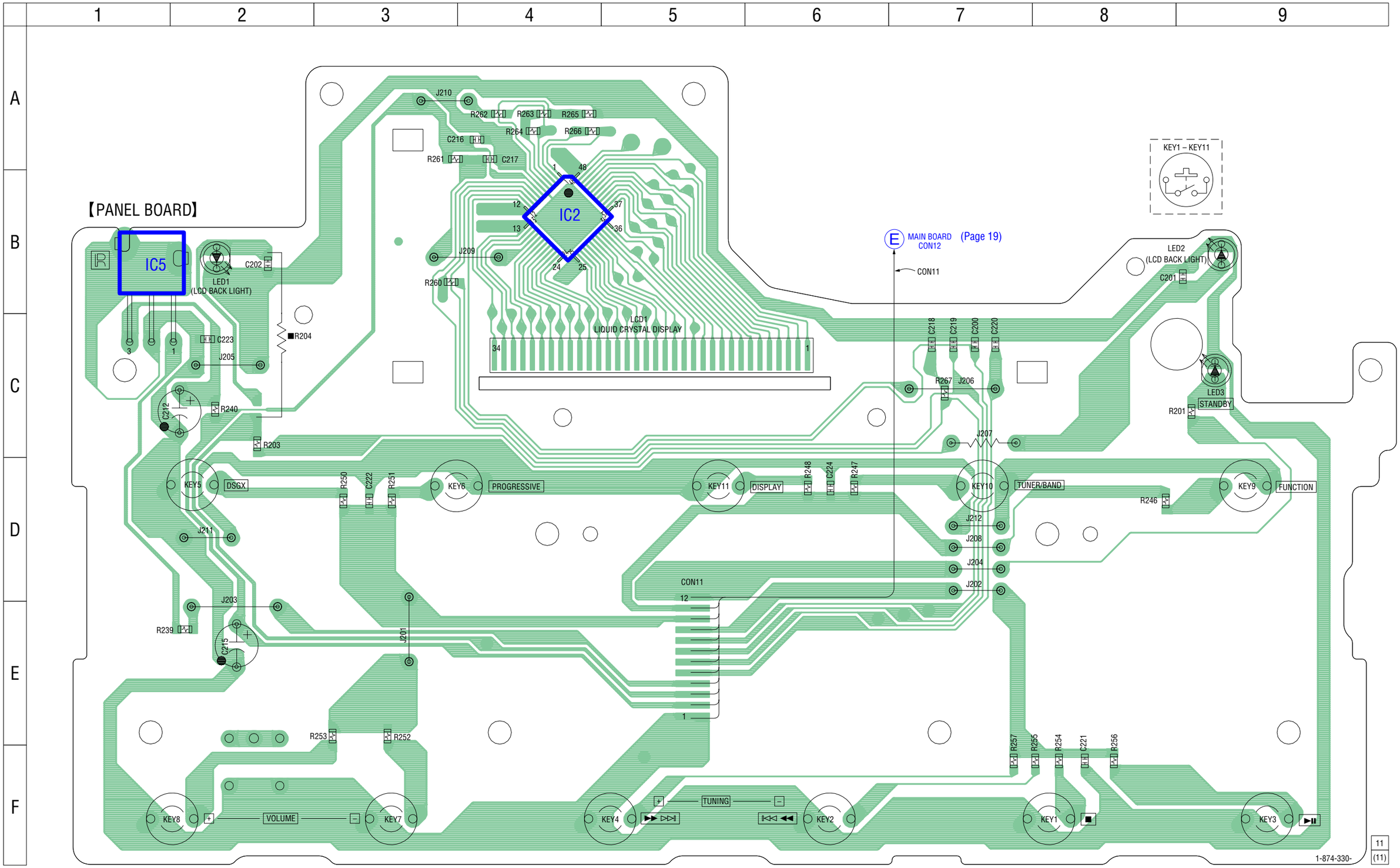


7-11. SCHEMATIC DIAGRAM – MAIN Board (4/4) – • See page 28 for Waveforms. • See page 28 for IC Block Diagrams. • See page 30 for IC Pin Function Description.



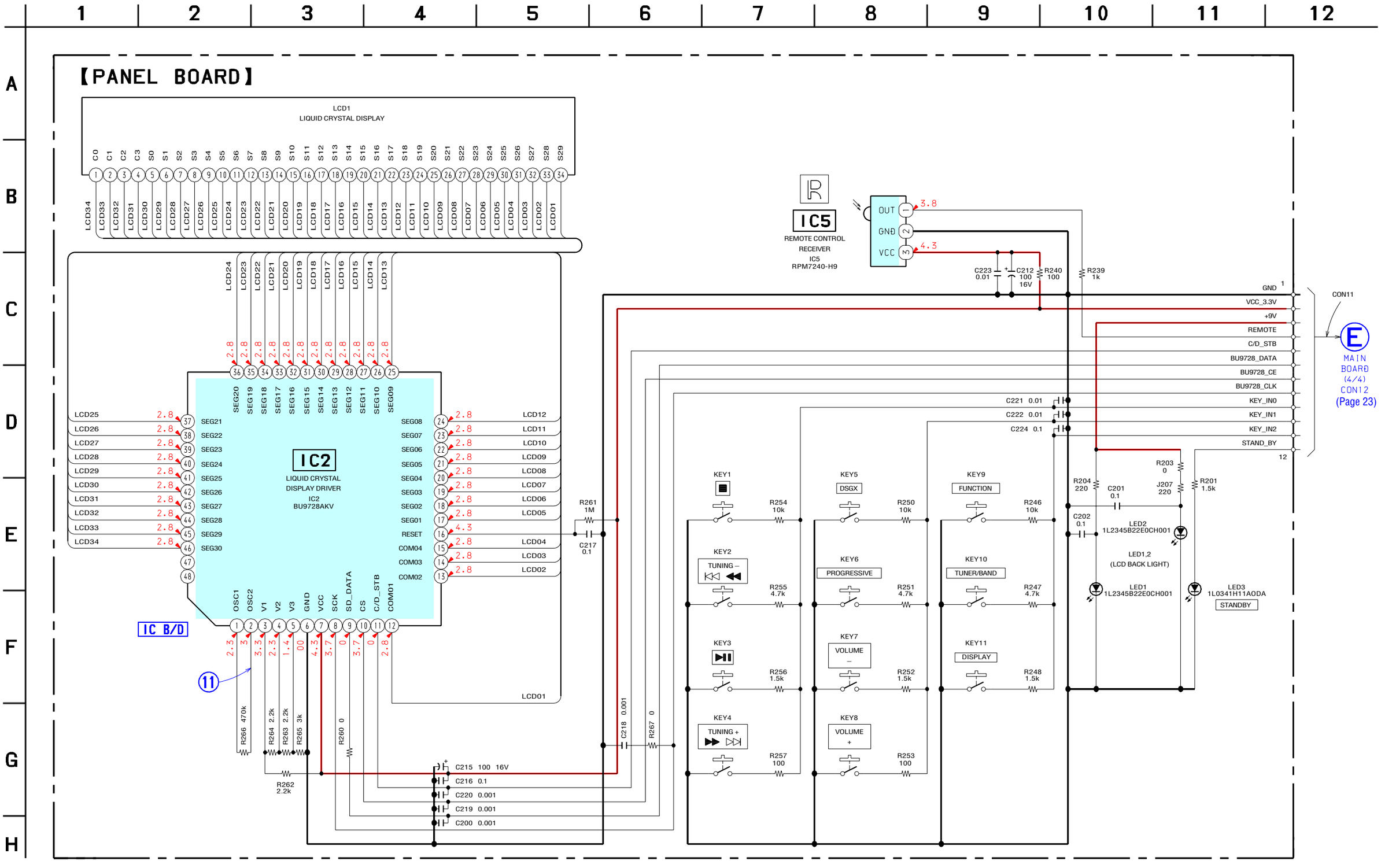
7-12. PRINTED WIRING BOARD – PANEL Board –

• See page 15 for Circuit Boards Location. : Uses unleaded solder.



7-13. SCHEMATIC DIAGRAM – PANEL Board –

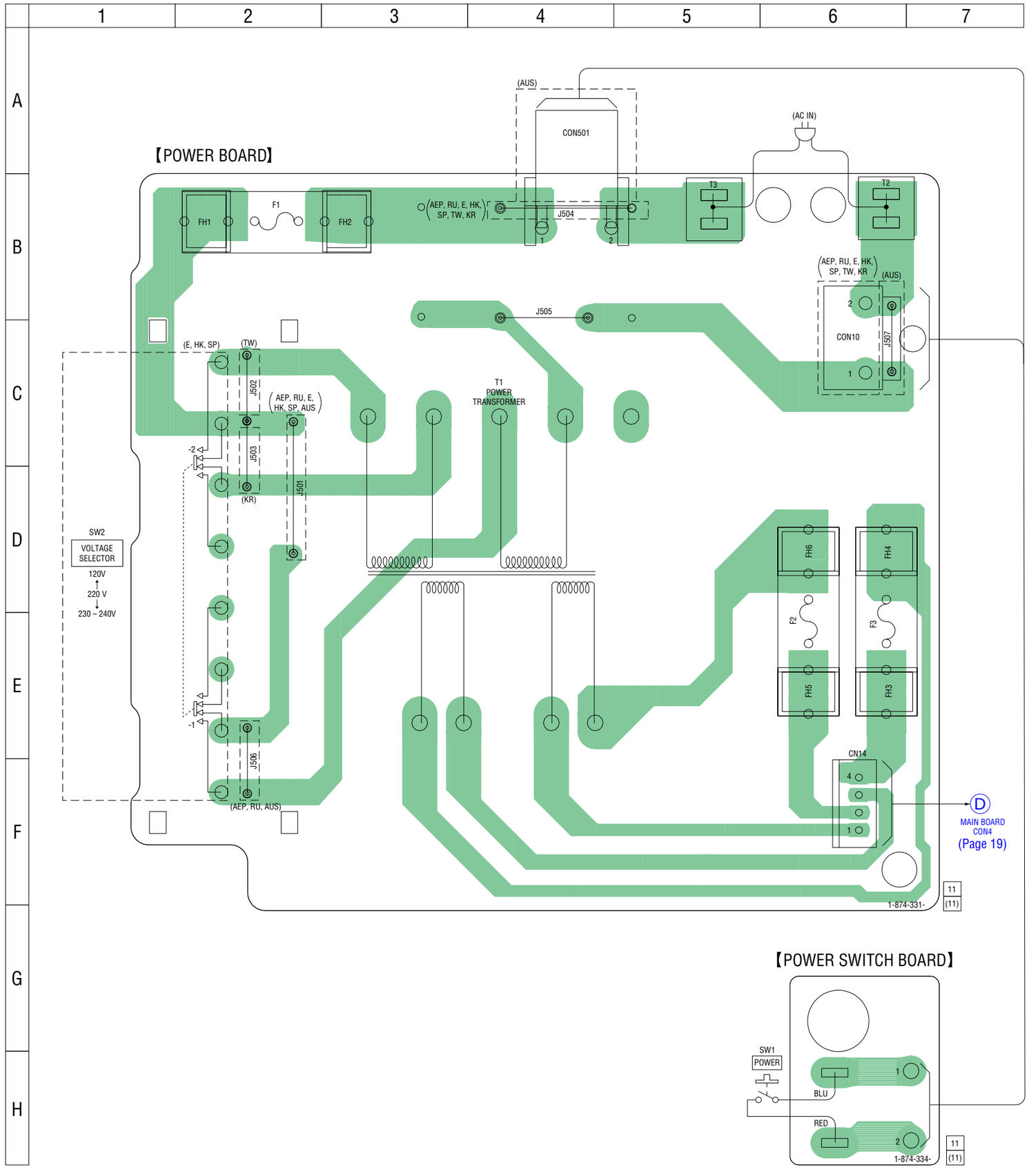
• See page 28 for Waveforms. • See page 28 for IC Block Diagrams.



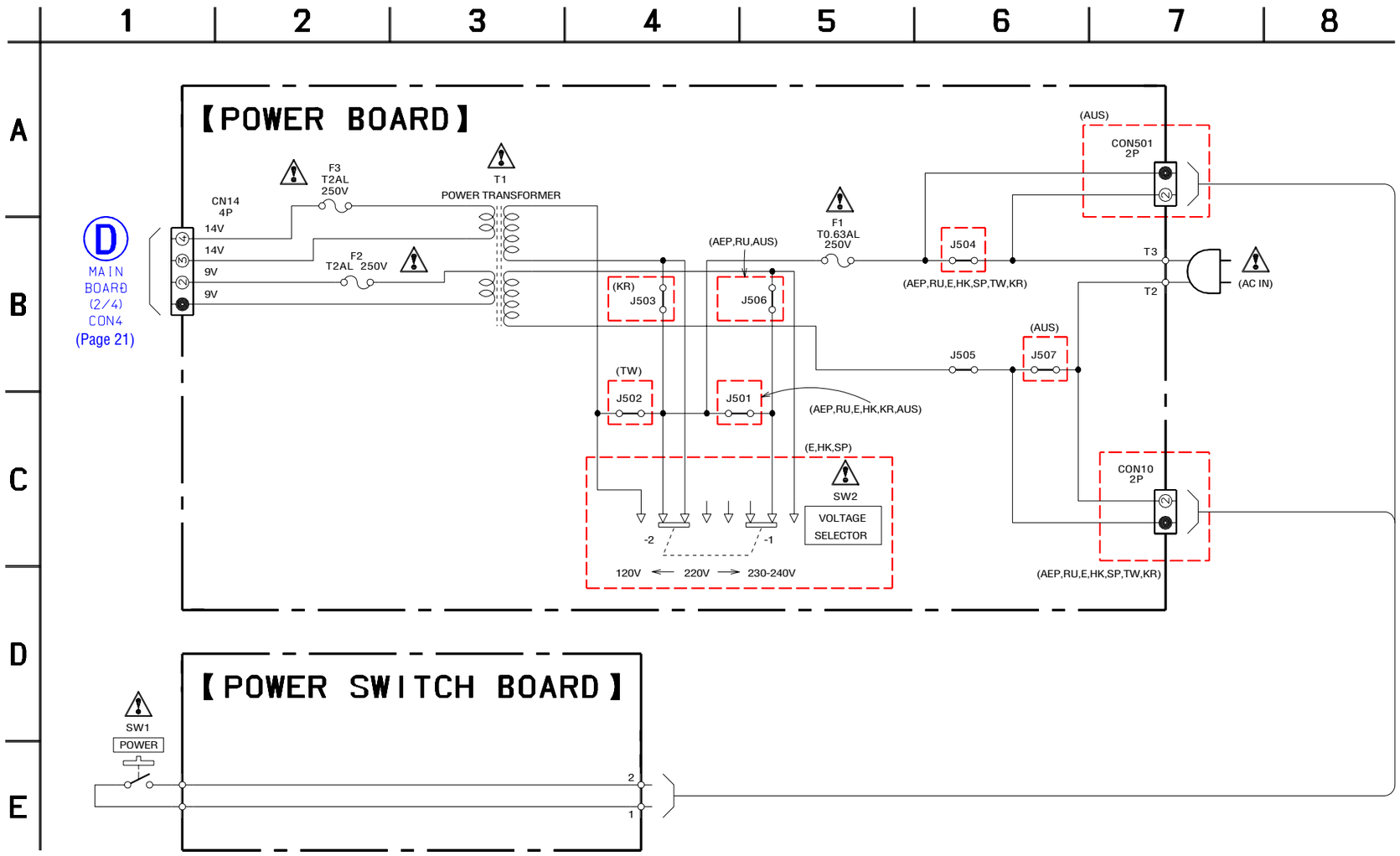
7-14. PRINTED WIRING BOARDS – POWER SUPPLY Section –

• See page 15 for Circuit Boards Location.

: Uses unleaded solder.



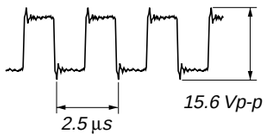
7-15. SCHEMATIC DIAGRAM – POWER SUPPLY Section –



• **Waveforms**

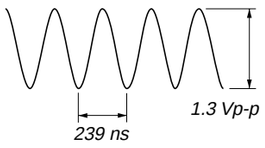
– MAIN Board –

① **U3 ③ (SW) (DVD play mode)**



5 V/DIV, 1 µs/DIV

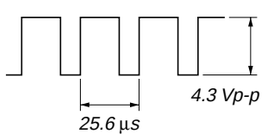
② **U1 ② (XOUT)**



500 mV/DIV, 100 ns/DIV

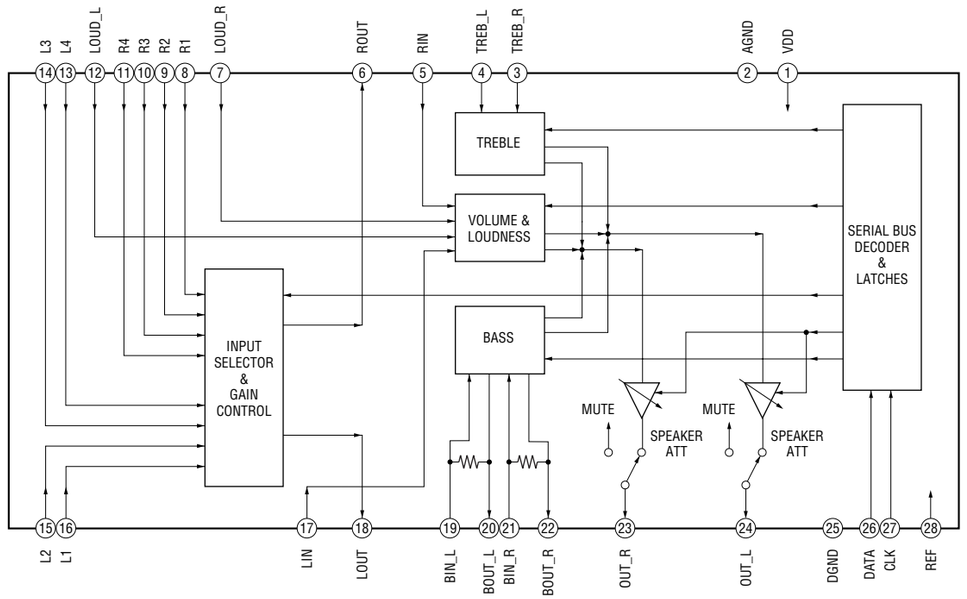
– PANEL Board –

⑪ **IC2 ② (OSC2)**



2 V/DIV, 10 µs/DIV

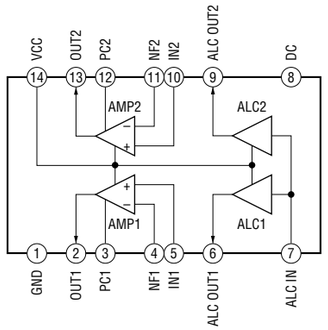
IC102 PT2314



• **IC Block Diagrams**

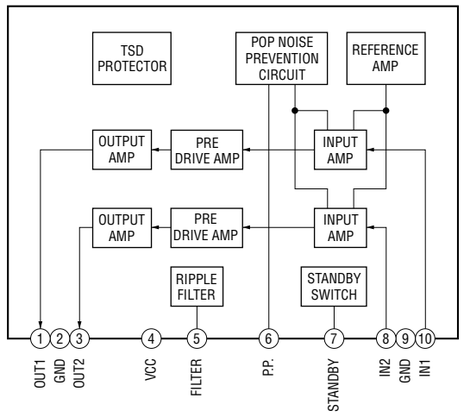
– DECK Board –

IC4 LA3220-E

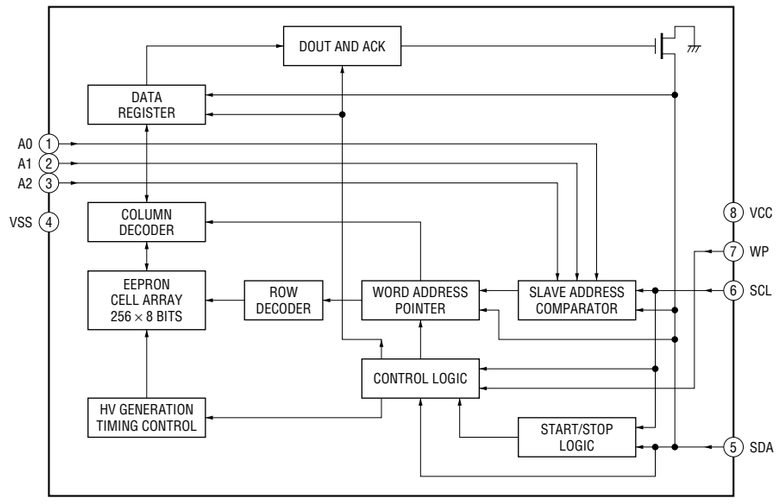


– MAIN Board –

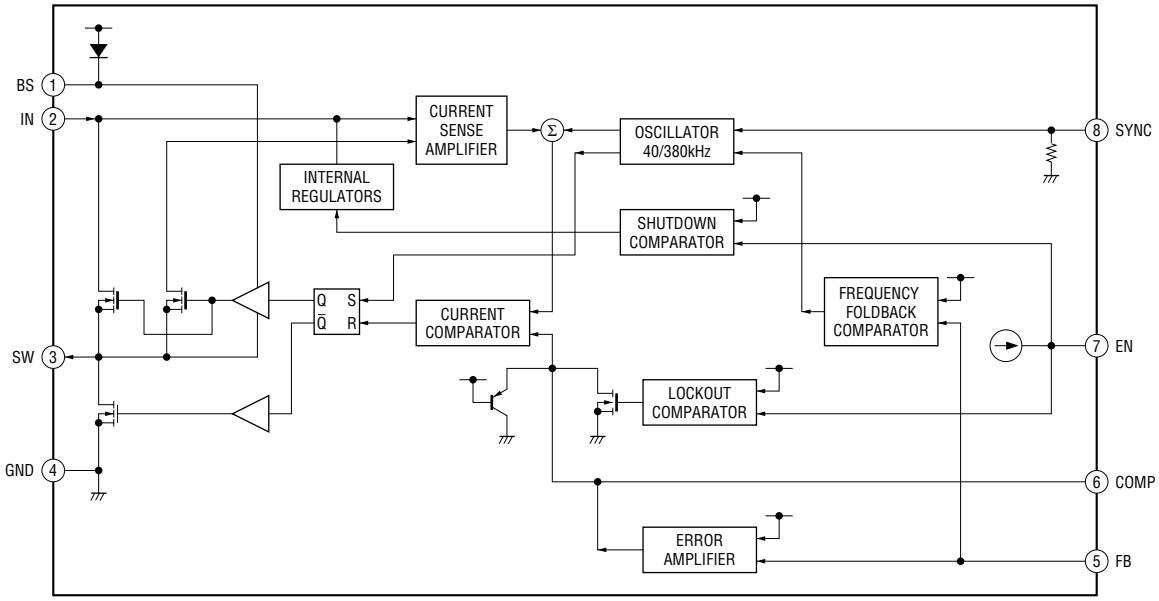
IC101 LA4600



U2 24LLC02

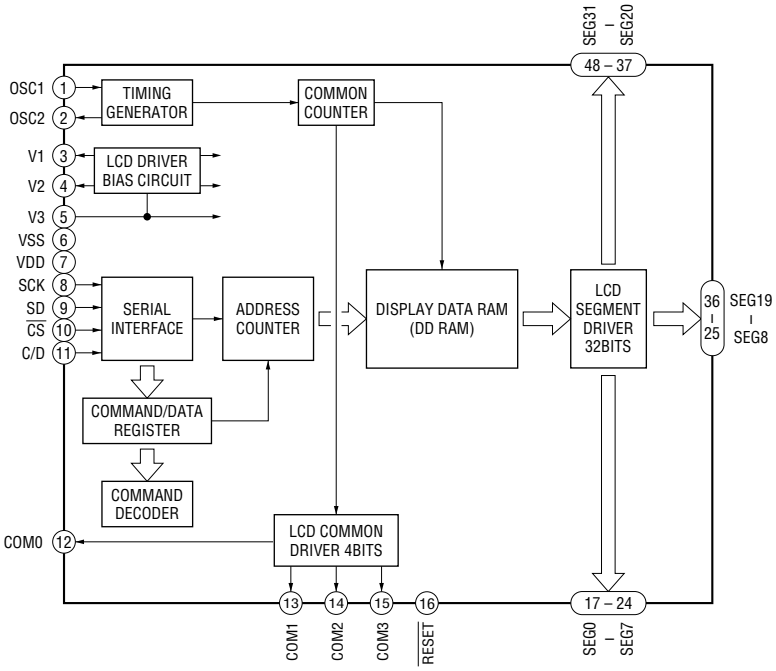


U3 MP1580HS-LF-Z



– PANEL Board –

IC2 BU9728AKV-E2



- **IC Pin Function Description**

MAIN BOARD U1 3P70F4XZZ-S094 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	VSS	-	Ground terminal
2	XOUT	O	System clock output terminal (4.19 MHz)
3	XIN	I	System clock input terminal (4.19 MHz)
4	TEST	I	Test signal input terminal Not used
5	REMOTE	I	SIRCS signal input from the remote control receiver
6	DVD_STB /TU_DO	I	Strobe signal input from the DVD block Serial data input from the tuner (FM/AM)
7	RESET	I	System reset signal input terminal "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
8	NC	-	Not used
9	DVD_CLK /TU_CLK	I/O	Strobe signal input from the DVD block Serial data transfer clock signal output to the tuner (FM/AM)
10	DVD_IR/TU_DI	I/O	Interrupt request signal input from the DVD block Serial data output to the tuner (FM/AM)
11	DVD_DATA /TU_CE	I/O	Serial data input from the DVD block Chip enable signal output to the tuner (FM/AM)
12	PROTECT	I	Protect signal input terminal
13 to 15	KEY_IN0 to KEY_IN2	I	Front panel key input terminal (A/D input)
16	KEY_OUT	I	Wake up signal input terminal
17	OPTION_IN	O	System clock signal output to the liquid crystal display
18	BU9728_CLK	O	Serial data transfer clock signal output to the liquid crystal display
19	NC	-	Not used
20	BU9728_CE	O	Chip enable signal output to the liquid crystal display
21	BU9728_DATA	O	Serial data output to the liquid crystal display
22	BU9728_C/D_STB	O	Command strobe signal output to the liquid crystal display
23	MUTE	O	Muting on/off control signal output terminal "L": muting on
24	TU_VCC_CTRL	O	Power on/off control signal output terminal "L": power on
25	POWER_CTRL	O	Power on/off control signal output terminal for main power "L": power on
26	24C01_CLK /7314_CLK	I	Serial data transfer clock signal output to the electrical volume and EEPROM
27	24C01_DATA /7314_DATA	I/O	Serial data output to the electrical volume Two-way data bus with the EEPROM
28	DVD_VCC_CTRL	O	Power on/off control signal output terminal for DVD block "H": power on
29	OP/CL	I	DVD lid open/close detection signal input terminal "L": DVD lid is closed
30	STAND_BY	O	LED drive signal output terminal for STANDBY indicator "H": LED on
31	OUT2	O	Fan motor drive signal output terminal Not used
32	VDD	-	Power supply terminal (+3.3V)

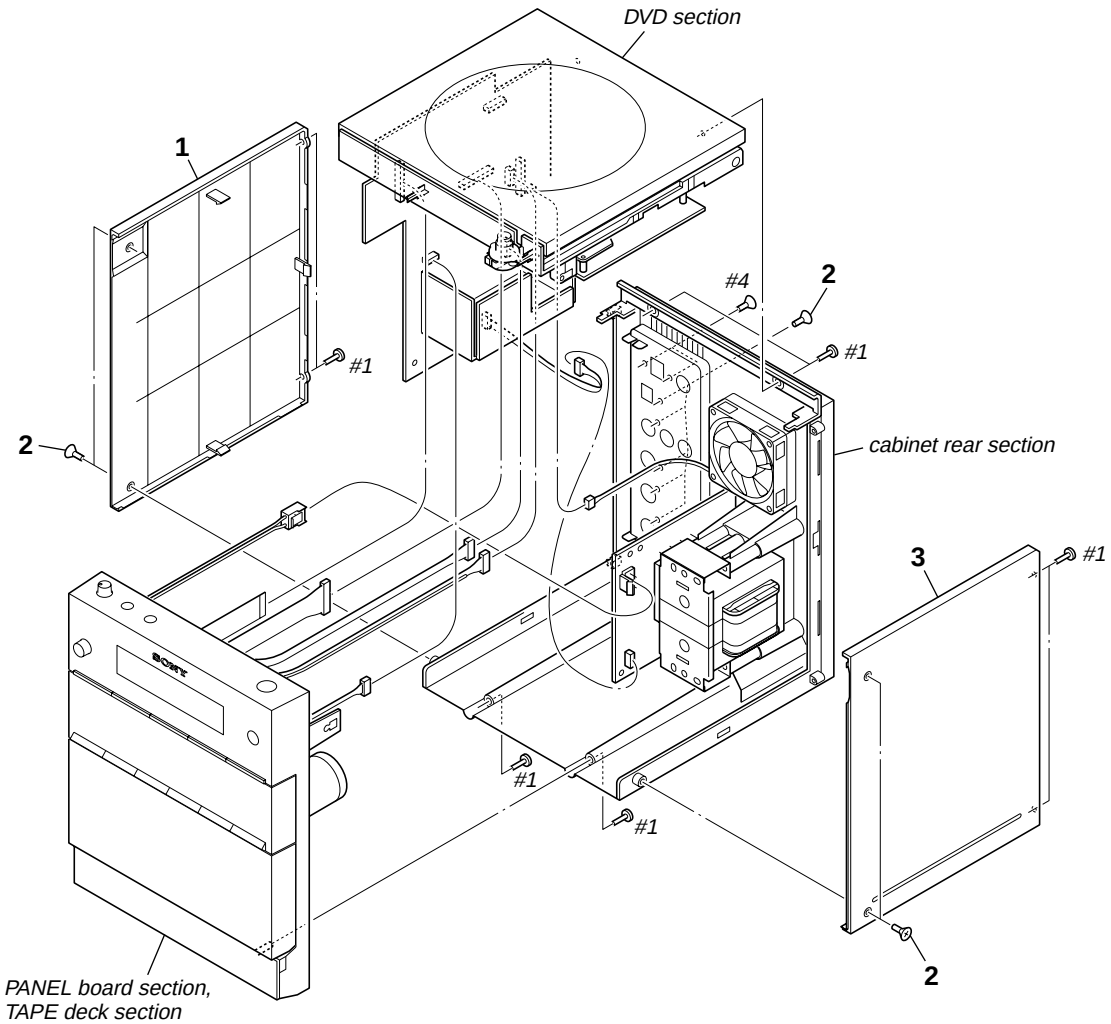
SECTION 8
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.
- Abbreviation
  AUS : Australian model
  HK : Hong Kong model
  KR : Korean model
  RU : Russian model
  SP : Singapore model
  TW : Taiwan model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

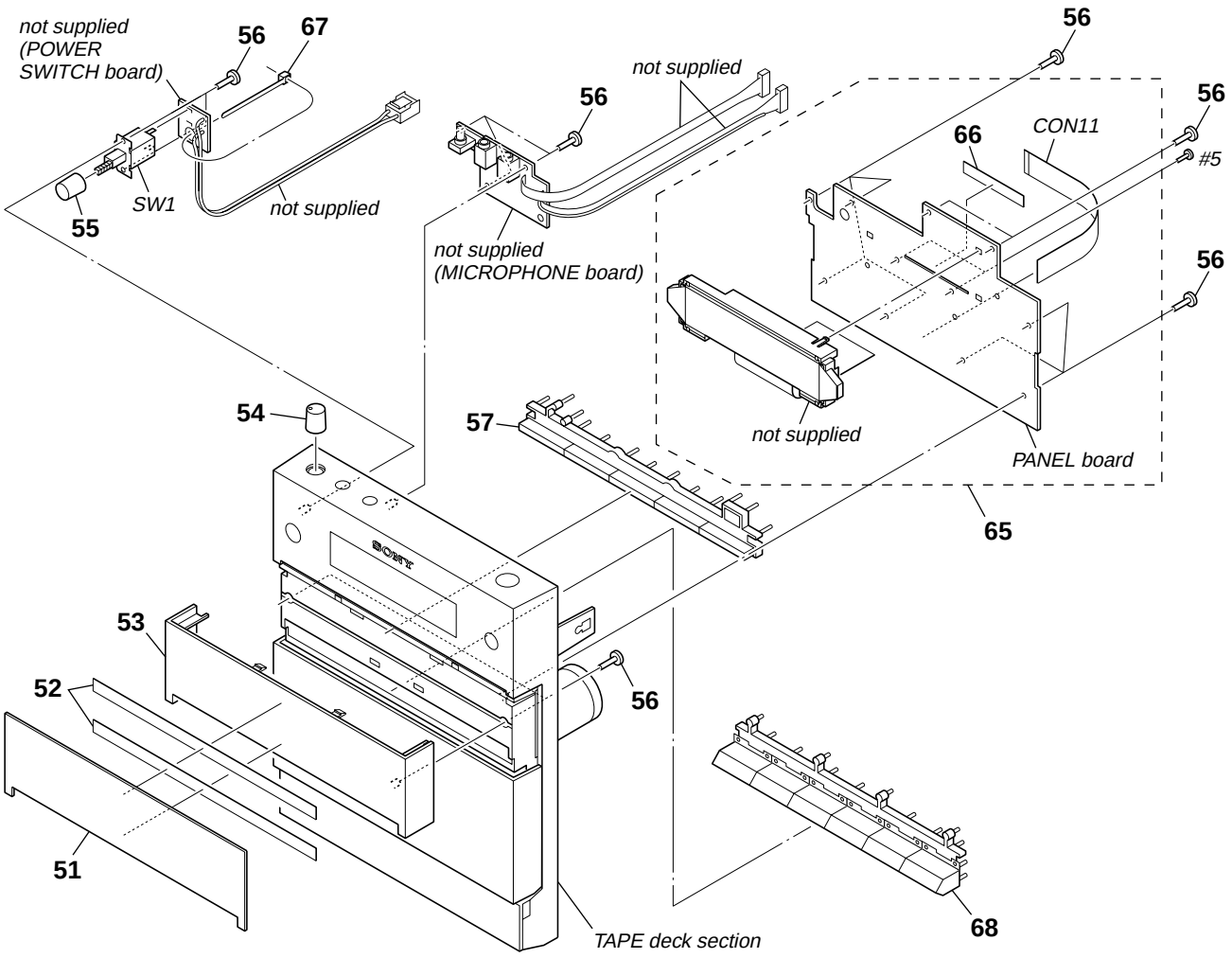
8-1. PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	3-196-179-01	PANEL LEFT	
2	2-580-644-01	SCREW, +KTP2 3X8	
3	3-196-180-01	PANEL RIGHT	

Ref. No.	Part No.	Description	Remark
#1	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#4	7-685-233-19	SCREW +KTP 2.6X6 TYPE2 NON-SLIT	

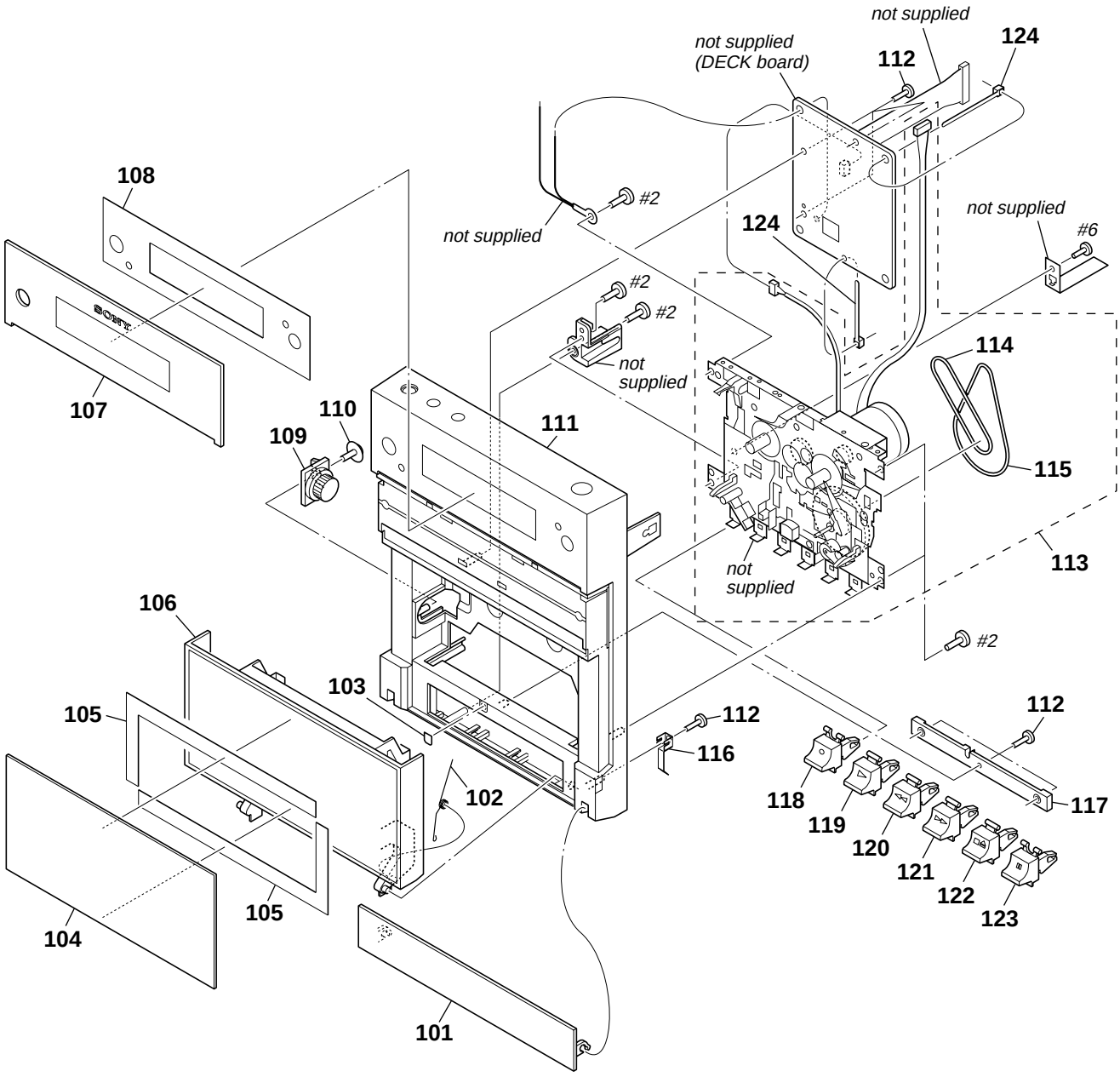
8-2. PANEL BOARD SECTION



Ref. No.	Part No.	Description	Remark
51	3-196-216-01	PLATE (OPERATION AL)	
52	3-273-018-01	SHEET (OPERATION AL)	
53	3-196-185-01	PANEL (FRONT)	
54	3-196-196-01	MIC VOLUME KNOB	
55	3-196-211-01	BUTTON (POWER)	
56	3-087-053-01	+BVTP 2.6 (3CR)	
57	3-196-195-01	BUTTON (FUNCTION) (FUNCTION, TUNER/ BAND, DISPLAY, PROGRESSIVE, DSGX)	

Ref. No.	Part No.	Description	Remark
65	A-1283-893-A	PANEL BOARD, COMPLETE	
66	3-273-019-01	SHEET (HEAT RESISTANT)	
67	3-701-748-00	CLAMP	
68	X-2187-759-1	BUTTON ASSY, OPERATION	
CON11	1-831-615-21	CABLE, FLEXIBLE FLAT (12 CORE)	
SW1	1-786-268-11	SWITCH, POWER (POWER)	
#5	7-685-504-19	SCREW +BTP 2.6X6 TYPE2 N-S	

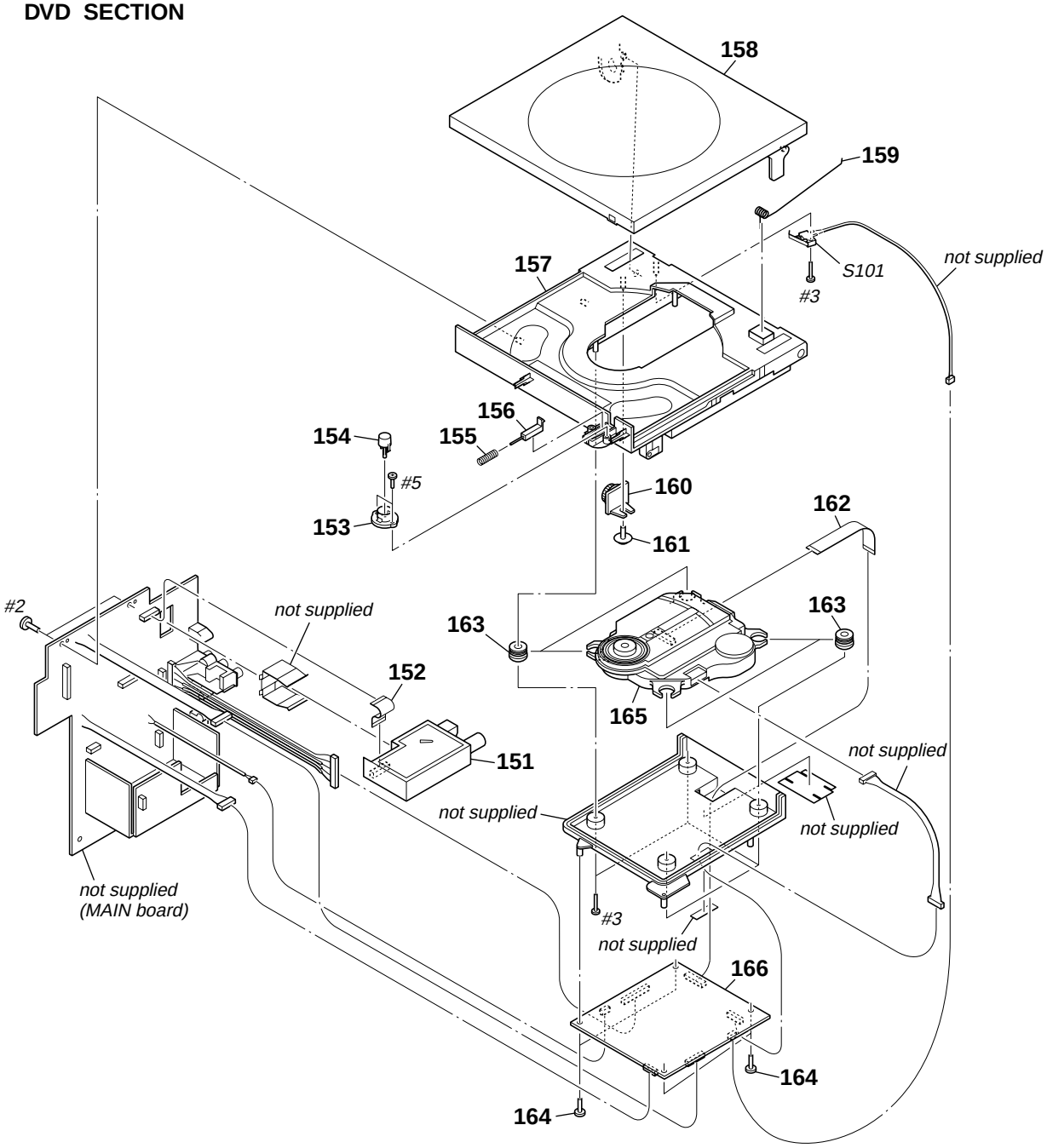
8-3. TAPE DECK SECTION



Ref. No.	Part No.	Description	Remark
101	3-196-184-01	COVER CASSETTE	
102	3-215-196-01	SPRING (CASSETTE)	
103	3-214-987-01	SHEET (AZIMUTH)	
104	3-196-215-01	PLATE (CASSETTE AL)	
105	3-273-017-01	SHEET (CASSETTE AL)	
106	3-196-183-01	CASSETTE DOOR	
107	3-196-186-01	WINDOW DISPLAY	
108	3-270-522-01	SHEET (DISPLAY)	
109	X-2179-666-1	DAMPER ASSY (FR)	
110	3-252-830-01	SCREW (B3), (+) PWH TAPPING	
111	3-196-177-01	CABINET FRONT	
112	3-087-053-01	+BVTP 2.6 (3CR)	
113	1-797-374-21	DECK, MECH (H-21)	
114	2-670-390-01	BELT (2)	

Ref. No.	Part No.	Description	Remark
115	2-670-389-01	BELT (1)	
116	3-196-218-01	SPRING (PLATE CASSETTE)	
117	3-196-191-01	PLATE (CASSETTE BUTTON)	
118	3-196-213-01	BUTTON (CASSETTE) (▯▯)	
119	3-196-213-11	BUTTON (CASSETTE) (□⏏)	
120	3-196-213-21	BUTTON (CASSETTE) (▷▷)	
121	3-196-213-31	BUTTON (CASSETTE) (◁◁)	
122	3-196-213-41	BUTTON (CASSETTE) (▷)	
123	3-196-213-51	BUTTON (CASSETTE) (○)	
124	3-701-748-00	CLAMP	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#6	7-685-780-01	SCREW +PTT 2X3 (S)	

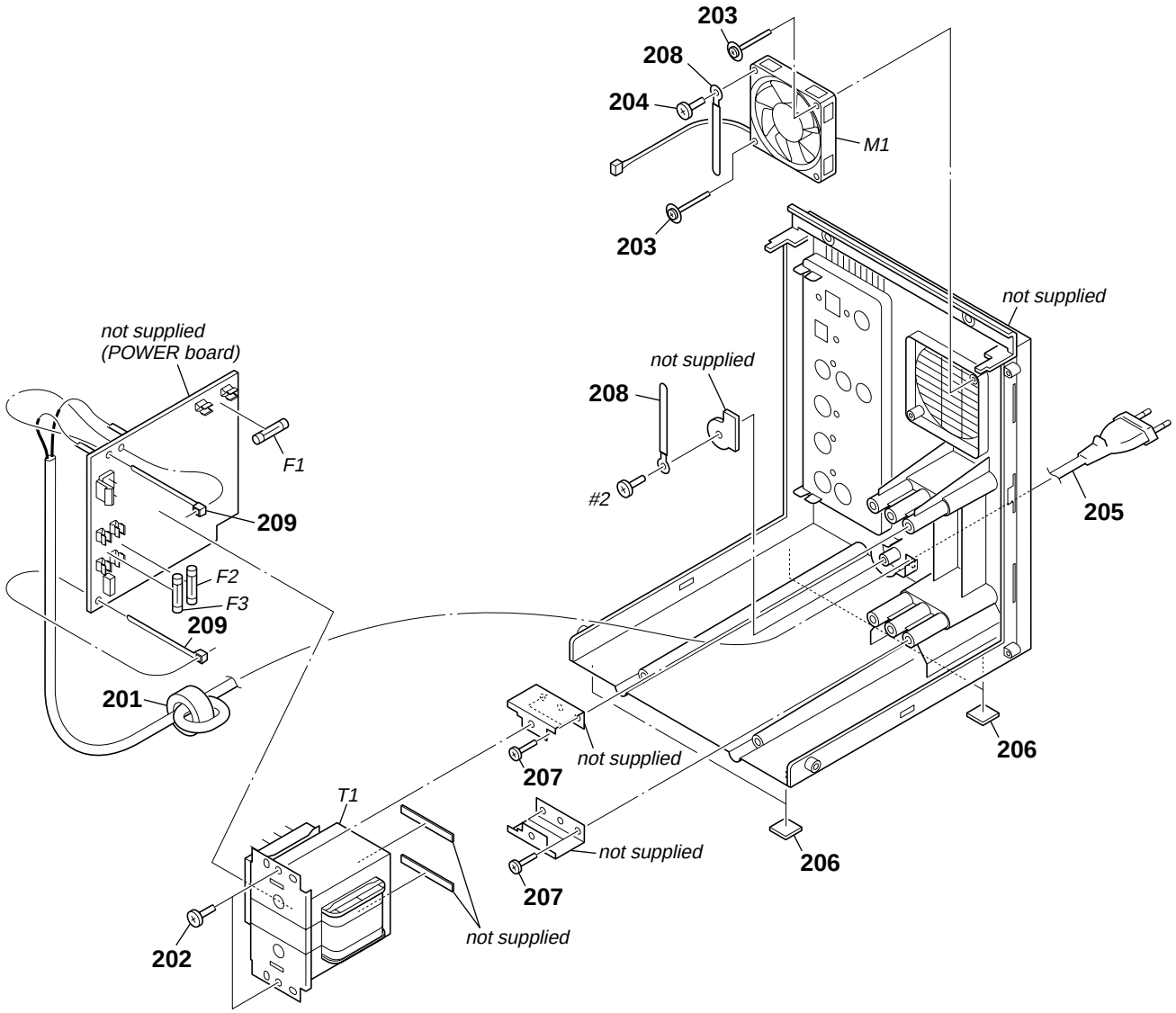
8-4. DVD SECTION



Ref. No.	Part No.	Description	Remark
151	1-693-734-11	TUNER (FM/AM) (E, HK, SP, TW, AUS)	
151	1-693-735-11	TUNER (FM/AM) (AEP, RU, KR)	
152	1-834-248-21	WIRE, FLAT TYPE (9 CORE)	
153	3-196-190-01	OPEN HOOK BRACKET	
154	3-196-210-01	BUTTON OPEN	
155	3-269-473-01	SPRING, COMPRESSION	
156	3-196-212-01	OPEN HOOK	
157	3-196-182-01	CHASSIS DVD	
158	3-196-181-01	DVD DOOR	
159	3-214-990-01	SPRING (DVD DOOR)	
160	X-2179-667-1	DAMPER ASSY (DVD)	
161	3-252-830-01	SCREW (B3), (+) PWH TAPPING	
162	1-834-247-11	WIRE, FLAT TYPE (24 CORE)	
163	3-219-612-01	INSULATOR	

Ref. No.	Part No.	Description	Remark
164	3-087-053-01	SCREW +BVTP 2.6 (3CR)	
⚠165	8-820-320-20	OPTICAL PICK-UP BLOCK (KHM-313AHC/C2RP)	
166	X-2187-514-1	DVD BOARD, COMPLETE (for SERVICE) (AEP, E)	
166	X-2187-515-1	DVD BOARD, COMPLETE (for SERVICE) (AUS)	
166	X-2187-516-1	DVD BOARD, COMPLETE (for SERVICE) (HK, KR, SP, TW)	
166	X-2187-517-1	DVD BOARD, COMPLETE (for SERVICE) (RU)	
S101	1-798-083-11	SWITCH, PUSH (DVD DOOR OPEN/CLOSE DETECT)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#3	7-685-106-14	SCREW +P 2X10 TYPE2 NON-SLIT	
#5	7-685-504-19	SCREW +BTP 2.6X6 TYPE2 N-S	

8-5. CABINET REAR SECTION



Ref. No.	Part No.	Description	Remark
201	1-500-868-11	CORE, FERRITE	
202	3-918-696-11	SCREW (M3X6 LOCK ACE)	
203	3-564-708-01	SCREW (+P 2X18) (TYPE 2)	
204	3-087-053-01	+BVTP 2.6 (3CR)	
⚠205	1-775-790-81	CORD, POWER (AUS)	
⚠205	1-827-597-81	CORD, POWER (TW)	
⚠205	1-834-301-11	CORD, POWER (KR)	
⚠205	1-834-302-11	CORD, POWER (AEP, RU, E, SP)	
⚠205	1-834-303-11	CORD, POWER (HK)	
206	3-273-016-01	FOOT, RUBBER	
207	3-254-145-01	SCREW (B3), (+) BV TAPPING	

Ref. No.	Part No.	Description	Remark
208	4-237-065-01	CLAMP (L35)	
209	3-701-748-00	CLAMP	
⚠F1	1-532-500-33	FUSE (T0.63AL/250V)	
⚠F2	1-532-388-33	FUSE (T2AL/250V)	
⚠F3	1-532-388-33	FUSE (T2AL/250V)	
M1	1-787-685-11	FAN, D.C. (50 SQUARE)	
⚠T1	1-445-264-11	TRANSFORMER, POWER (AEP, RU)	
⚠T1	1-445-265-11	TRANSFORMER, POWER (E, HK, SP, TW, KR, AUS)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

DECK

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA... : µA... uPA... : µPA...
  uPB... : µPB... uPC... : µPC...
  uPD... : µPD...
- Abbreviation
  AUS : Australian model
  HK : Hong Kong model
  KR : Korean model
  RU : Russian model
  SP : Singapore model
  TW : Taiwan model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		DECK BOARD			
		**********			
		< CAPACITOR >			
C9	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C169	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C170	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C171	1-126-963-11	ELECT	4.7uF	20%	50V
C172	1-126-963-11	ELECT	4.7uF	20%	50V
C173	1-130-477-00	MYLAR	0.0033uF	5%	50V
C174	1-130-477-00	MYLAR	0.0033uF	5%	50V
C175	1-126-933-11	ELECT	100uF	20%	16V
C176	1-126-933-11	ELECT	100uF	20%	16V
C177	1-130-487-00	MYLAR	0.022uF	5%	50V
C178	1-130-487-00	MYLAR	0.022uF	5%	50V
C179	1-126-964-11	ELECT	10uF	20%	50V
C180	1-126-964-11	ELECT	10uF	20%	50V
C183	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C184	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C185	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C186	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C187	1-126-963-11	ELECT	4.7uF	20%	50V
C188	1-126-963-11	ELECT	4.7uF	20%	50V
C189	1-164-145-11	CERAMIC CHIP	390PF	5%	50V
C190	1-164-145-11	CERAMIC CHIP	390PF	5%	50V
C191	1-130-477-00	MYLAR	0.0033uF	5%	50V
C192	1-130-477-00	MYLAR	0.0033uF	5%	50V
C193	1-126-947-11	ELECT	47uF	20%	35V
C194	1-126-934-11	ELECT	220uF	20%	16V
C195	1-126-935-11	ELECT	470uF	20%	16V
C197	1-126-947-11	ELECT	47uF	20%	35V
C198	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C203	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C230	1-126-934-11	ELECT	220uF	20%	16V
C231	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C232	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C233	1-130-483-00	MYLAR	0.01uF	5%	50V
C234	1-130-487-00	MYLAR	0.022uF	5%	50V
C235	1-135-580-11	MYLAR	330PF	5%	50V
C237	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C238	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CON101	1-815-444-11	PIN, CONNECTOR (PWB) 3P			
		< DIODE >			
D11	6-500-086-01	DIODE RLS4148TE-11			
D12	6-500-086-01	DIODE RLS4148TE-11			
D13	6-500-086-01	DIODE RLS4148TE-11			
D14	6-500-086-01	DIODE RLS4148TE-11			
D15	6-500-086-01	DIODE RLS4148TE-11			
D16	6-500-086-01	DIODE RLS4148TE-11			
		< IC >			
IC4	6-711-378-01	IC LA3220-E			
		< RESISTOR >			
J107	1-247-807-31	CARBON	100	5%	1/4W
		< COIL >			
L101	1-481-301-11	INDUCTOR, MICRO		10uH	
L102	1-481-301-11	INDUCTOR, MICRO		10uH	
		< TRANSISTOR >			
Q23	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q24	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q25	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q27	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R139	1-216-818-11	METAL CHIP	560	5%	1/10W
R165	1-247-791-91	CARBON	22	5%	1/4W
R166	1-216-839-11	METAL CHIP	33K	5%	1/10W
R167	1-216-834-11	METAL CHIP	12K	5%	1/10W
R168	1-218-446-11	METAL CHIP	1	5%	1/10W
R169	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R170	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R171	1-216-803-11	METAL CHIP	33	5%	1/10W
R172	1-216-803-11	METAL CHIP	33	5%	1/10W
R173	1-216-842-11	METAL CHIP	56K	5%	1/10W
R174	1-216-842-11	METAL CHIP	56K	5%	1/10W
R175	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R176	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R178	1-216-864-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remark
R179	1-216-841-11	METAL CHIP	47K	5%	1/10W
R180	1-216-841-11	METAL CHIP	47K	5%	1/10W
R181	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R182	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R183	1-216-849-11	METAL CHIP	220K	5%	1/10W
R184	1-249-401-11	CARBON	47	5%	1/4W
R185	1-216-849-11	METAL CHIP	220K	5%	1/10W
R186	1-216-849-11	METAL CHIP	220K	5%	1/10W
R187	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R188	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R193	1-249-417-11	CARBON	1K	5%	1/4W
R194	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R195	1-216-837-11	METAL CHIP	22K	5%	1/10W
R196	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R197	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
RJ100	1-216-296-11	SHORT CHIP	0		
		< SWITCH >			
SW5	1-798-081-11	SWITCH, SLIDE (REC/PB)			
		< TRANSFORMER >			
T101	1-445-263-11	TRANSFORMER, BIAS OSCILLATION			
		< DIODE >			
ZD5	8-719-109-97	DIODE RD6.8ESB2			
**********					
	X-2187-514-1	DVD BOARD, COMPLETE (for SERVICE) (AEP, E)			
	X-2187-515-1	DVD BOARD, COMPLETE (for SERVICE) (AUS)			
	X-2187-516-1	DVD BOARD, COMPLETE (for SERVICE) (HK, KR, SP, TW)			
	X-2187-517-1	DVD BOARD, COMPLETE (for SERVICE) (RU)			
		**********			
When DVD board is defective, exchange the entire mounted board.					
**********					
		MAIN BOARD			
		**********			
	1-834-248-21	WIRE, FLAT TYPE (9 CORE)			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C1	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C2	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C4	1-104-662-91	ELECT	22uF	20%	25V
C5	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C6	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C7	1-126-934-11	ELECT	220uF	20%	16V
C8	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C10	1-104-662-91	ELECT	22uF	20%	25V
C11	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C12	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C13	1-126-934-11	ELECT	220uF	20%	16V
C14	1-126-964-11	ELECT	10uF	20%	50V
C15	1-126-933-11	ELECT	100uF	20%	16V
C16	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C17	1-126-935-11	ELECT	470uF	20%	16V
C18	1-126-934-11	ELECT	220uF	20%	16V
C19	1-126-935-11	ELECT	470uF	20%	16V
C20	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C21	1-126-934-11	ELECT	220uF	20%	16V
C22	1-126-935-11	ELECT	470uF	20%	16V
C23	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C24	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V
C25	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V
C26	1-126-961-11	ELECT	2.2uF	20%	50V
C27	1-126-963-11	ELECT	4.7uF	20%	50V
C28	1-126-963-11	ELECT	4.7uF	20%	50V
C29	1-126-961-11	ELECT	2.2uF	20%	50V
C30	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C31	1-126-961-11	ELECT	2.2uF	20%	50V
C32	1-126-961-11	ELECT	2.2uF	20%	50V
C33	1-126-961-11	ELECT	2.2uF	20%	50V
C34	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C35	1-126-961-11	ELECT	2.2uF	20%	50V
C36	1-126-961-11	ELECT	2.2uF	20%	50V
C37	1-126-961-11	ELECT	2.2uF	20%	50V
C38	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C39	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C40	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C41	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C42	1-126-963-11	ELECT	4.7uF	20%	50V
C43	1-126-963-11	ELECT	4.7uF	20%	50V
C46	1-126-964-11	ELECT	10uF	20%	50V
C47	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C48	1-126-960-11	ELECT	1uF	20%	50V
C49	1-126-960-11	ELECT	1uF	20%	50V
C50	1-126-960-11	ELECT	1uF	20%	50V
C51	1-126-960-11	ELECT	1uF	20%	50V
C52	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C53	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C54	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C55	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C56	1-126-963-11	ELECT	4.7uF	20%	50V
C57	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C58	1-104-662-91	ELECT	22uF	20%	25V
C59	1-126-959-11	ELECT	0.47uF	20%	50V
C60	1-126-959-11	ELECT	0.47uF	20%	50V
C61	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C62	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C63	1-126-933-11	ELECT	100uF	20%	16V
C65	1-126-944-11	ELECT	3300uF	20%	25V
C66	1-126-767-11	ELECT	1000uF	20%	16V
C67	1-126-767-11	ELECT	1000uF	20%	16V
C68	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C69	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C70	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C71	1-126-933-11	ELECT	100uF	20%	16V
C72	1-126-963-11	ELECT	4.7uF	20%	50V
C73	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C74	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C75	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C76	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V

MAIN

Ref. No.	Part No.	Description			Remark
C77	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C78	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C79	1-126-933-11	ELECT	100uF	20%	16V
C80	1-126-947-11	ELECT	47uF	20%	35V
C81	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C82	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C83	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C84	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C85	1-126-944-11	ELECT	3300uF	20%	25V
C87	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C88	1-164-361-11	CERAMIC CHIP	0.047uF		25V
C90	1-126-767-11	ELECT	1000uF	20%	16V
C91	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C92	1-126-935-11	ELECT	470uF	20%	16V
C94	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C95	1-104-662-91	ELECT	22uF	20%	25V
C96	1-104-665-11	ELECT	100uF	20%	25V
C97	1-126-935-11	ELECT	470uF	20%	16V
C98	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C99	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C100	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C101	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C102	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C104	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C105	1-126-933-11	ELECT	100uF	20%	16V
C106	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C107	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C108	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C109	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C110	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C111	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C112	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C116	1-162-923-11	CERAMIC CHIP	47PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C117	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C119	1-164-156-11	CERAMIC CHIP	0.1uF		25V (AEP, RU, KR)
C120	1-164-156-11	CERAMIC CHIP	0.1uF		25V (AEP, RU, KR)
C121	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C122	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C123	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C126	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (AEP, RU, KR)
C128	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C129	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C130	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, HK, TW, KR, AUS)
C131	1-164-315-11	CERAMIC CHIP	470PF	5%	50V (AEP, RU, KR)
C132	1-164-315-11	CERAMIC CHIP	470PF	5%	50V (AEP, RU, KR)
C133	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (AEP, RU, KR)
C134	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C135	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C136	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C137	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C138	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C141	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C142	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C143	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C144	1-131-664-91	CERAMIC CHIP	0.15uF	10%	10V
C900	1-164-156-11	CERAMIC CHIP	0.1uF		25V (AEP, RU, KR)
		< CONNECTOR >			
CN901	1-568-828-11	CONNECTOR, FFC 9P			
CON1	1-816-478-11	PIN, CONNECTOR (PWB) 11P			
CON2	1-815-446-11	PIN, CONNECTOR (PWB) 5P			
CON5	1-815-443-11	PIN, CONNECTOR (PWB) 2P			
CON9	1-815-445-11	PIN, CONNECTOR (PWB) 4P			
CON12	1-784-773-11	CONNECTOR, FFC 12P			
CON100	1-815-446-11	PIN, CONNECTOR (PWB) 5P			
		< CAPACITOR >			
CT1	1-126-947-11	ELECT	47uF	20%	35V
CT2	1-126-947-11	ELECT	47uF	20%	35V
CT3	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
CT4	1-126-947-11	ELECT	47uF	20%	35V
		< DIODE/JUMPER RESISTOR >			
D1	6-500-086-01	DIODE RLS4148TE-11			
D4	8-719-046-07	DIODE 2A02M			
D5	6-502-115-01	DIODE SK34A			
D6	6-500-086-01	DIODE RLS4148TE-11			
D7	6-500-086-01	DIODE RLS4148TE-11			
D8	1-216-296-11	SHORT CHIP 0			
D9	6-500-086-01	DIODE RLS4148TE-11			
D10	6-500-086-01	DIODE RLS4148TE-11			
D17	6-500-086-01	DIODE RLS4148TE-11			
D18	6-500-086-01	DIODE RLS4148TE-11			
D19	6-500-086-01	DIODE RLS4148TE-11			
D20	6-501-046-01	DIODE 1N5402-F46			
D21	6-501-046-01	DIODE 1N5402-F46			
D22	6-501-046-01	DIODE 1N5402-F46			
D23	6-501-046-01	DIODE 1N5402-F46			
D24	8-719-046-07	DIODE 2A02M			
D25	8-719-046-07	DIODE 2A02M			
D26	8-719-046-07	DIODE 2A02M			
D27	8-719-046-07	DIODE 2A02M			
D30	6-500-086-01	DIODE RLS4148TE-11			
D31	6-500-086-01	DIODE RLS4148TE-11			
D34	6-500-086-01	DIODE RLS4148TE-11			
D36	6-500-086-01	DIODE RLS4148TE-11			
D37	6-500-086-01	DIODE RLS4148TE-11			
D38	6-500-086-01	DIODE RLS4148TE-11			
D39	6-500-086-01	DIODE RLS4148TE-11			
		< IC >			
IC1	8-759-231-56	IC TA7809S			
IC101	8-759-452-80	IC LA4600			

Ref. No.	Part No.	Description			Remark
IC102	6-702-842-01	IC PT2314			
		< JACK/TERMINAL/IC >			
JAC1	1-774-227-11	JACK, PIN 1P (VIDEO OUT)			
JAC2	1-780-531-11	TERMINAL, S (S VIDEO OUT)			
JAC3	1-821-406-11	JACK, PIN 3P (COMPONENT VIDEO OUT)			
JAC4	6-600-465-11	IC TOTX147 (DIGITAL OUT OPTICAL)			
JAC5	1-821-407-11	JACK, PIN 2P (SPEAKER)			
		< COIL >			
L2	1-456-107-11	COIL, AIR-CORE			
L3	1-456-107-11	COIL, AIR-CORE			
L1A	1-457-486-11	COIL, CHOKE	100uH		
		< TRANSISTOR/DIODE >			
Q1	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q2	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q3	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q4	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q5	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q6	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q7	8-729-034-00	TRANSISTOR	2SA1282ATP-EF		
Q8	6-551-751-01	TRANSISTOR	2SC5395		
Q9	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q11	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q12	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q13	6-550-889-01	TRANSISTOR	2SC5938-T112-1B		
Q16	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q17	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q18	6-500-848-01	DIODE MC2840-T112-1			
Q19	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q20	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q21	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q22	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
Q26	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
QT2	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
QT3	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
QT4	6-551-696-01	TRANSISTOR	ISA1235AC1TP-1EF		
		< RESISTOR >			
R1	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R2	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R3	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R4	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R5	1-216-174-00	RES-CHIP	100	5%	1/8W
R6	1-249-393-11	CARBON	10	5%	1/4W
R7	1-249-393-11	CARBON	10	5%	1/4W
R8	1-216-864-11	SHORT CHIP	0		
R11	1-216-815-11	METAL CHIP	330	5%	1/10W
R12	1-216-815-11	METAL CHIP	330	5%	1/10W
R13	1-216-815-11	METAL CHIP	330	5%	1/10W
R14	1-216-815-11	METAL CHIP	330	5%	1/10W
R15	1-216-815-11	METAL CHIP	330	5%	1/10W
R16	1-216-833-11	METAL CHIP	10K	5%	1/10W
R17	1-216-833-11	METAL CHIP	10K	5%	1/10W
R18	1-216-833-11	METAL CHIP	10K	5%	1/10W
R19	1-216-815-11	METAL CHIP	330	5%	1/10W
R20	1-216-815-11	METAL CHIP	330	5%	1/10W

Ref. No.	Part No.	Description			Remark
R21	1-216-809-11	METAL CHIP	100	5%	1/10W
R22	1-216-853-11	METAL CHIP	470K	5%	1/10W
R23	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R24	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R25	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R26	1-216-815-11	METAL CHIP	330	5%	1/10W
R27	1-216-815-11	METAL CHIP	330	5%	1/10W
R28	1-216-815-11	METAL CHIP	330	5%	1/10W
R29	1-216-833-11	METAL CHIP	10K	5%	1/10W
R30	1-216-837-11	METAL CHIP	22K	5%	1/10W
R31	1-216-833-11	METAL CHIP	10K	5%	1/10W
R32	1-216-845-11	METAL CHIP	100K	5%	1/10W
R33	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R34	1-216-833-11	METAL CHIP	10K	5%	1/10W
R35	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R36	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R37	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R38	1-216-815-11	METAL CHIP	330	5%	1/10W
R39	1-216-815-11	METAL CHIP	330	5%	1/10W
R41	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R42	1-216-821-11	METAL CHIP	1K	5%	1/10W
R43	1-216-833-11	METAL CHIP	10K	5%	1/10W
R44	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R45	1-216-841-11	METAL CHIP	47K	5%	1/10W
R47	1-216-833-11	METAL CHIP	10K	5%	1/10W
R48	1-216-836-11	METAL CHIP	18K	5%	1/10W
R49	1-216-805-11	METAL CHIP	47	5%	1/10W
R50	1-216-805-11	METAL CHIP	47	5%	1/10W
R51	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R53	1-216-833-11	METAL CHIP	10K	5%	1/10W
R54	1-216-793-11	METAL CHIP	4.7	5%	1/10W
R55	1-216-813-11	METAL CHIP	220	5%	1/10W
R56	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R57	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R58	1-216-833-11	METAL CHIP	10K	5%	1/10W
R59	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R60	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R61	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R62	1-216-833-11	METAL CHIP	10K	5%	1/10W
R63	1-216-833-11	METAL CHIP	10K	5%	1/10W
R64	1-216-839-11	METAL CHIP	33K	5%	1/10W
R65	1-216-839-11	METAL CHIP	33K	5%	1/10W
R66	1-216-833-11	METAL CHIP	10K	5%	1/10W
R67	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R68	1-216-809-11	METAL CHIP	100	5%	1/10W
R69	1-216-815-11	METAL CHIP	330	5%	1/10W
R70	1-216-815-11	METAL CHIP	330	5%	1/10W
R73	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R74	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R75	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R76	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R77	1-216-833-11	METAL CHIP	10K	5%	1/10W
R78	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R79	1-216-841-11	METAL CHIP	47K	5%	1/10W
R80	1-216-841-11	METAL CHIP	47K	5%	1/10W
R81	1-216-849-11	METAL CHIP	220K	5%	1/10W
R82	1-216-849-11	METAL CHIP	220K	5%	1/10W

MAIN **MICROPHONE**

Ref. No.	Part No.	Description			Remark
R83	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R84	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R85	1-216-849-11	METAL CHIP	220K	5%	1/10W
R86	1-216-849-11	METAL CHIP	220K	5%	1/10W
R90	1-216-833-11	METAL CHIP	10K	5%	1/10W
R91	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R92	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R93	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R94	1-216-818-11	METAL CHIP	560	5%	1/10W
R95	1-216-818-11	METAL CHIP	560	5%	1/10W
R96	1-216-845-11	METAL CHIP	100K	5%	1/10W
R97	1-216-833-11	METAL CHIP	10K	5%	1/10W
R98	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R99	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R100	1-216-821-11	METAL CHIP	1K	5%	1/10W
R101	1-216-841-11	METAL CHIP	47K	5%	1/10W
R102	1-216-845-11	METAL CHIP	100K	5%	1/10W
R103	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R104	1-216-845-11	METAL CHIP	100K	5%	1/10W
R105	1-216-864-11	SHORT CHIP	0		
R106	1-216-797-11	METAL CHIP	10	5%	1/10W
R107	1-216-797-11	METAL CHIP	10	5%	1/10W
R108	1-216-834-11	METAL CHIP	12K	5%	1/10W
R109	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R110	1-216-833-11	METAL CHIP	10K	5%	1/10W
R111	1-216-841-11	METAL CHIP	47K	5%	1/10W
R112	1-216-833-11	METAL CHIP	10K	5%	1/10W
R113	1-216-818-11	METAL CHIP	560	5%	1/10W
R114	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R115	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R116	1-216-837-11	METAL CHIP	22K	5%	1/10W
R117	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R118	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R119	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R120	1-216-833-11	METAL CHIP	10K	5%	1/10W
R121	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R126	1-216-864-11	SHORT CHIP	0		
R127	1-216-833-11	METAL CHIP	10K	5%	1/10W
R128	1-216-821-11	METAL CHIP	1K	5%	1/10W
R129	1-216-833-11	METAL CHIP	10K	5%	1/10W
R130	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R131	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R132	1-216-805-11	METAL CHIP	47	5%	1/10W
R133	1-216-805-11	METAL CHIP	47	5%	1/10W
R134	1-216-833-11	METAL CHIP	10K	5%	1/10W
R135	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R136	1-216-815-11	METAL CHIP	330	5%	1/10W
R137	1-216-815-11	METAL CHIP	330	5%	1/10W
R138	1-216-815-11	METAL CHIP	330	5%	1/10W
R141	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R142	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R200	1-216-797-11	METAL CHIP	10	5%	1/10W
R202	1-216-797-11	METAL CHIP	10	5%	1/10W
RJ1	1-216-296-11	SHORT CHIP	0		
RJ2	1-216-296-11	SHORT CHIP	0		
RJ3	1-216-296-11	SHORT CHIP	0		
RJ4	1-216-296-11	SHORT CHIP	0		
RJ6	1-216-296-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remark
RJ7	1-216-864-11	SHORT CHIP	0		
RJ8	1-216-864-11	SHORT CHIP	0		
RJ9	1-216-864-11	SHORT CHIP	0		
RJ998	1-216-864-11	SHORT CHIP	0		
			(AEP, RU, HK, TW, KR, AUS)		
RT1	1-216-833-11	METAL CHIP	10K	5%	1/10W
RT2	1-216-805-11	METAL CHIP	47	5%	1/10W
RT3	1-216-805-11	METAL CHIP	47	5%	1/10W
RT4	1-216-833-11	METAL CHIP	10K	5%	1/10W
RT6	1-216-833-11	METAL CHIP	10K	5%	1/10W
RT7	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
RT8	1-216-817-11	METAL CHIP	470	5%	1/10W
RT9	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
RT10	1-216-805-11	METAL CHIP	47	5%	1/10W
RT11	1-216-849-11	METAL CHIP	220K	5%	1/10W
RT12	1-216-797-11	METAL CHIP	10	5%	1/10W
		< IC >			
U1	6-807-571-01	IC 3P70F4XZZ-SO94			
U2	6-807-632-01	IC 24LLC02			
U3	6-708-371-01	IC MP1580HS-LF-Z			
		< VIBRATOR >			
XT1	1-814-025-11	VIBRATOR, CRYSTAL (4.19MHz)			
		< DIODE >			
ZD1	8-719-109-85	DIODE RD5.1ESB2			
ZD3	8-719-921-63	DIODE MTZJ-7.5B			
ZD4	8-719-110-17	DIODE RD10ESB2			

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MICROPHONE BOARD

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< CAPACITOR >

C301	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C302	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C303	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C304	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C305	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C306	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C307	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C309	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C310	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C311	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
CE301	1-124-233-11	ELECT	10uF	20%	16V
CE302	1-125-972-61	ELECT	100uF	20%	16V
CE303	1-124-233-11	ELECT	10uF	20%	16V
CE304	1-125-972-61	ELECT	100uF	20%	16V

< DIODE >

D301 6-500-086-01 DIODE RLS4148TE-11

< IC >

IC301 8-759-100-96 IC uPC4558G2

Ref. No.	Part No.	Description			Remark
		< JACK >			
JA302	1-815-629-11	JACK (PHONES)			
JA303	1-815-629-11	JACK (MIC)			
		< TRANSISTOR >			
Q301	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R301	1-216-814-11	METAL CHIP	270	5%	1/10W
R302	1-216-814-11	METAL CHIP	270	5%	1/10W
R303	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R304	1-216-845-11	METAL CHIP	100K	5%	1/10W
R305	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R306	1-216-845-11	METAL CHIP	100K	5%	1/10W
R307	1-216-814-11	METAL CHIP	270	5%	1/10W
R308	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R309	1-216-845-11	METAL CHIP	100K	5%	1/10W
R310	1-216-837-11	METAL CHIP	22K	5%	1/10W
R311	1-216-838-11	METAL CHIP	27K	5%	1/10W
R313	1-216-845-11	METAL CHIP	100K	5%	1/10W
R314	1-216-817-11	METAL CHIP	470	5%	1/10W
R315	1-216-809-11	METAL CHIP	100	5%	1/10W
R316	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R317	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
VR301	1-227-788-11	RES, VAR, CARBON 20K (MIC LEVEL)			
**********					
	A-1283-893-A	PANEL BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C200	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C201	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C212	1-126-933-11	ELECT	100uF	20%	16V
C215	1-126-933-11	ELECT	100uF	20%	16V
C216	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C218	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C219	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C220	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C221	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C222	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C223	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C224	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< FLAT CABLE >			
CON11	1-831-615-21	CABLE, FLEXIBLE FLAT (12 CORE)			
		< IC >			
IC2	8-759-465-98	IC BU9728AKV-E2			
IC5	6-600-309-01	IC RPM7240-H9			

Ref. No.	Part No.	Description			Remark
		< RESISTOR>			
J207	1-249-409-11	CARBON	220	5%	1/4W
		< SWITCH >			
KEY1	1-762-875-21	SWITCH, KEYBOARD (■)			
KEY2	1-762-875-21	SWITCH, KEYBOARD (TUNING –, ⏮ ◀◀)			
KEY3	1-762-875-21	SWITCH, KEYBOARD (▶II)			
KEY4	1-762-875-21	SWITCH, KEYBOARD (TUNING +, ▶▶ ⏭)			
KEY5	1-762-875-21	SWITCH, KEYBOARD (DSGX)			
KEY6	1-762-875-21	SWITCH, KEYBOARD (PROGRESSIVE)			
KEY7	1-762-875-21	SWITCH, KEYBOARD (VOLUME –)			
KEY8	1-762-875-21	SWITCH, KEYBOARD (VOLUME +)			
KEY9	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)			
KEY10	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
KEY11	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)			
		< LED >			
LED1	6-502-156-01	LED 1L2345B22EOCH001 (LCD BACK LIGHT)			
LED2	6-502-156-01	LED 1L2345B22EOCH001 (LCD BACK LIGHT)			
LED3	6-501-980-01	LED 1L0341H11AODA201 (STANDBY)			
		< RESISTOR >			
R201	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R203	1-216-864-11	SHORT CHIP	0		
R204	1-249-409-11	CARBON	220	5%	1/4W
R239	1-216-821-11	METAL CHIP	1K	5%	1/10W
R240	1-216-809-11	METAL CHIP	100	5%	1/10W
R246	1-216-833-11	METAL CHIP	10K	5%	1/10W
R247	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R248	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R250	1-216-833-11	METAL CHIP	10K	5%	1/10W
R251	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R252	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R253	1-216-809-11	METAL CHIP	100	5%	1/10W
R254	1-216-833-11	METAL CHIP	10K	5%	1/10W
R255	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R256	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R257	1-216-809-11	METAL CHIP	100	5%	1/10W
R260	1-216-864-11	SHORT CHIP	0		
R261	1-216-857-11	METAL CHIP	1M	5%	1/10W
R262	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R263	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R264	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R265	1-216-865-11	METAL CHIP	3K	5%	1/10W
R266	1-216-853-11	METAL CHIP	470K	5%	1/10W
R267	1-216-864-11	SHORT CHIP	0		
**********					
		POWER BOARD			
		**********			
		< CONNECTOR >			
CN14	1-815-445-11	PIN, CONNECTOR (PWB) 4P			
CON10	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P			(EXCEPT AUS)
* CON501	1-568-226-11	PIN, CONNECTOR (3.96mm PITCH) 2P (AUS)			

Ref. No.	Part No.	Description	Remark
		< FUSE >	
⚠F1	1-532-500-33	FUSE (T0.63AL/250V)	
⚠F2	1-532-388-33	FUSE (T2AL/250V)	
⚠F3	1-532-388-33	FUSE (T2AL/250V)	
		< FUSE HOLDER >	
FH1	1-533-217-41	HOLDER, FUSE	
FH2	1-533-217-41	HOLDER, FUSE	
FH3	1-533-217-41	HOLDER, FUSE	
FH4	1-533-217-41	HOLDER, FUSE	
FH5	1-533-217-41	HOLDER, FUSE	
FH6	1-533-217-41	HOLDER, FUSE	
		< SWITCH >	
⚠SW2	1-786-408-11	SELECTOR, VOLTAGE (SWS-2301) (VOLATAGE SELECTOR) (E, HK, SP)	
		< TRANSFORMER >	
⚠T1	1-445-264-11	TRANSFORMER, POWER (AEP, RU)	
⚠T1	1-445-265-11	TRANSFORMER, POWER (E, HK, SP, TW, KR, AUS)	
**********			
		POWER SWITCH BOARD	
		**********	
**********			
		MISCELLANEOUS	
		**********	
113	1-797-374-21	DECK, MECH (H-21)	
151	1-693-734-11	TUNER (FM/AM) (E, HK, SP, TW, AUS)	
151	1-693-735-11	TUNER (FM/AM) (AEP, RU, KR)	
152	1-834-248-21	WIRE, FLAT TYPE (9 CORE)	
162	1-834-247-11	WIRE, FLAT TYPE (24 CORE)	
⚠165	8-820-320-20	OPTICAL PICK-UP BLOCK (KHM-313AHC/C2RP)	
201	1-500-868-11	CORE, FERRITE	
⚠205	1-775-790-81	CORD, POWER (AUS)	
⚠205	1-827-597-81	CORD, POWER (TW)	
⚠205	1-834-301-11	CORD, POWER (KR)	
⚠205	1-834-302-11	CORD, POWER (AEP, RU, E, SP)	
⚠205	1-834-303-11	CORD, POWER (HK)	
⚠F1	1-532-500-33	FUSE (T0.63AL/250V)	
⚠F2	1-532-388-33	FUSE (T2AL/250V)	
⚠F3	1-532-388-33	FUSE (T2AL/250V)	
M1	1-787-685-11	FAN, D.C. (50 SQUARE)	
S101	1-798-083-11	SWITCH, PUSH (DVD DOOR OPEN/CLOSE DETECT)	
SW1	1-786-268-11	SWITCH, POWER (POWER)	
⚠T1	1-445-264-11	TRANSFORMER, POWER (AEP, RU)	
⚠T1	1-445-265-11	TRANSFORMER, POWER (E, HK, SP, TW, KR, AUS)	
**********			
		ACCESSORIES	
		**********	
⚠	1-785-072-21	ADAPTOR, CONVERSION (E)	
⚠	1-569-008-22	ADAPTOR, CONVERSION 2P (SP)	

MEMO

REVISION HISTORY

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Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2006.11	New
1.1	2007.01	Addition of AEP and Russian models
1.2	2007.06	Addition of detailed content according to servicing form change (ENG-07003)
1.3	2007.10	Addition of Part No. for DVD board and Optical Pick-up Block Deletion of Ref. No. 58, 59, 60, 61, 62, 63 and 64 on EXPLODED VIEWS Addition of Ref. No. 68 on EXPLODED VIEWS (ECN-ECC41124/SPM-07094)

SS-CDF1

SERVICE MANUAL

Ver. 1.2 2007.06

AEP Model
E Model
Australian Model

- SS-CDF1 is the speaker system in CMT-DF1.

SPECIFICATIONS

Speaker system	Full range, bass-reflex type, magnetically shielded type
Speaker units	
Full range:	10 cm, cone type
Nominal impedance	4 ohms
Dimensions (w/h/d)	Approx. 145 × 212 × 187 mm
Mass	Approx. 1.4 kg net per speaker

Design and specifications are subject to change without notice.

PARTS LIST

Part No.	Description	Remark
A-1283-796-A	OVERALL ASSY	

SPEAKER SYSTEM

9-887-737-01
2007F05-1
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Personal Audio Division
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